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you and the USDA

The Agricultural Department . . .
is precisely the people's Department, in which they feel more directly concerned than in any other.



. . . *From President Lincoln's Fourth Annual Message to the Congress*

This publication was developed as part of the Department's Centennial to give a broad survey of the major responsibilities that the Congress has assigned to the U.S. Department of Agriculture in the 100 years since the Department was established by the 37th Congress.

These duties reach into many and varied aspects of daily living, affecting not only the Nation's food and clothing but also much of its shelter and recreation. They underpin industries, employment opportunities, and the life resources for future generations. Many are carried on through the Department's partnership with the Land-Grant University system.

From many people come inquiries about the programs of the Department and how they affect the lives of Americans. This publication is designed to answer those questions in the spirit of the USDA charter to disseminate useful information on agriculture to the people of the United States.

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you and the

USDA

The Hand of Progress

Tomorrow morning at 3 o'clock . . . in New York City's historic Washington Street market . . . a quiet, friendly, businesslike man will begin moving in and out of the fruit and vegetable stalls, talking with buyers and sellers. He's a USDA market reporter.

A few hours later, on a rolling farm in central Illinois, a technician with transit level will lay out the stakes for terraces that will combat soil erosion, save water, and improve the farm's future production. He's a USDA soil conservationist.

In a Michigan cherry orchard a research man will ride skyward in a "space basket"—a tractor-mounted device being tested as a laborsaver in pruning branches up to treetop height. He is a USDA agricultural engineer.

And many miles away, at the port of San Francisco, an inspector will climb the ramp of an arriving freighter. He will look over the cargo . . . visit the crew's quarters . . . roam through the galley with a practiced eye. His job is to detect harmful insects and diseases that might endanger U.S. crops or livestock. He's a USDA plant quarantine inspector.

Those are some of the men of the U.S. Department of Agriculture. Benefits of their work extend into every supermarket and every housewife's kitchen . . . to help fill America's market basket with abundance at reasonable prices and with perfect assurance of quality and safety.

The U.S. Department of Agriculture is both the product and the creator of a century of change. It is now a cliché to say that America has changed agriculture more in a hundred years . . . or in 50 years even . . . than it had progressed in the previous 20 centuries.

Change has come unevenly. With it have come problems. But remember this: Agricultural change has made possible the winning of wars and the building of a great industrial nation.

We have seen:

- A revolution in farming with mechanical and electrical power.
- A revolution in the animal and plant sciences.
- A revolution in extending science to the farm.
- A revolution in marketing services.
- A revolution in consumer expectations.

A highly publicized trend has been the decline in the number of farmers, resulting from the growing technology and the farmer's ever-growing ability to feed and clothe people. If we had had no increase in farmer productivity in the past hundred years, we would have today more than 35 million people working on farms, instead of 7 million.

The inhibiting effect this would have had on the growth of American industry in the past century is obvious.

The productivity of men has extended to the productivity of acres. In 1962, American farmers harvested crops off about 295 million acres, the smallest

acreage since records began in 1909. Each of us is getting adequate food and fiber from a little over an acre and a quarter of cropland (not including pasture). Fifty years ago—it took 37 million more acres to feed half as many people.

With fewer farmers and fewer crop acres, agriculture does not get less important—just more complicated. When a nation grows by 8,000 people a day, the job of feeding them must grow apace.

As the number of people employed in farming has declined, we have seen a rise in the number of people in related jobs. Ten million are engaged in marketing—buying and selling, assembling, transporting, processing, and the rest. Six million have jobs providing the supplies farmers use. Together with the 7 million directly employed on farms, these figures mean that farm-related jobs account for 4 out of every 10 workers in private employment.

All this has brought deep-seated changes in the economics of farm management.

Consider the changing pattern of farm “inputs”—an economic word for the resources that go into the farm economy. Just a few years ago, the major inputs were the farmer’s land and labor. Today more than half of the inputs represent things *other* than land and labor—machinery, fertilizer, oil products, and other items that the farmer must buy on a more or less regular basis.

This is a fundamental change.

It used to be that a farmer could exist with little or no cash income, if his wants were small and he raised most of his family’s food. There is an old story about a traveler who stopped at a farm, and asked the farmer: “How much money did you make off your crops this year?”

The farmer replied: “Oh, we don’t make any money. We just live on lack of expense.”

If that were ever possible, it is not possible now. It takes cash to operate a farm—for machinery, fuel, fertilizer, insecticides, and the other items that are a part of modern agriculture. All this has increased the farmer’s dependence on the market and the necessity for a good level of dollar income.

As America has become more urban, the “logistics” of farm marketing have become more intricate. We have seen the rise of great urban complexes where millions of people are blissfully dependent on food pipelines that, without constant refilling, would go empty within just a few days. (The New York area alone consumes a twelfth of U.S. food.)

Moreover, as science has developed new technology in farming and marketing, housewives have



BN-13109X

Good food . . . Good health . . . Strong bodies

come to *expect* more in terms of freshness, purity, convenience, and in the availability of year-round products that used to be strictly seasonal.

This all costs money. For every dollar Americans spend for food, more than 60 cents now goes for the marketing—less than 40 cents to the producer. Yet farmers and marketing men together have done such a good job that Americans are able to feed their families with an average expenditure of only a fifth of their disposable income. This is far below most other countries.

With the American housewife being offered a daily oversufficiency of every kind of food imaginable . . . in every stage of preparation . . . it is not surprising that she finds it difficult ever to realize the possibility of true scarcity in our country. Yet scarcity is real in today’s world.

A people that can afford to take abundance for granted must be rich indeed. And the fact that Americans do take it for granted is a high compliment to the Nation’s farmers, and the marketing system.

As agriculture has expanded in the complexity of its relationships with other economic groups . . . there have over the years arisen new needs for public services. In our democratic system, these needs have translated themselves into congressional

action to bring new programs and new legislative tools into existence.

The logical instrument of most of this legislation is the U.S. Department of Agriculture, and to the Department have come new assignments from the Congress each year. In its first session alone, the 87th Congress enacted 126 laws that affected USDA in one way or another.

As the Department's responsibilities have grown, the Department has grown. The Department has 16 operating agencies. Total full-time employment is about 90,000 people, of which some 80,000 are field employees at 7,500 operating locations.

In addition, there are other large groups of workers allied with the Department. These include 21,000 employees of the State extension services, 20,000 attached to State agricultural experiment stations, about 25,000 man-years of employment by ASC county committees, and around 13,000 part-time and intermittent employees.

The employees of USDA administer a highly complex body of laws and statutes going back through many Congresses. Their operations are useful, not only to people associated with agriculture but to all of the 187 million people in this country, and to millions more in other lands. Their accomplishments touch everyone in America at least three times a day.

Just what is USDA's total job after a hundred years of adding responsibility to responsibility? Just how does the Department carry on this proliferation of activity . . . so scattered . . . so diverse . . . so interlaced with the economy of America . . . so essential to its citizens?

Let's examine what the Department does . . . how . . . and why:

- The Department administers, on a Federal-State basis, the research programs that have had so much to do with the success of agriculture.

- The Department provides the services, regulations, and research needed to modernize, stream-

Main offices of U.S. Department of Agriculture occupy these buildings in Washington, D.C. About 10,000 of the Department's 90,000 employees work here; the rest work in 10,000 locations throughout the country and abroad.

N-42256





N-38021

Food in the pipeline. A laker loads grain at Chicago to carry it to a mill up the St. Lawrence. Without constant refilling, our food pipelines would be empty in a few days.

line, and generally grease the wheels of the whole farm marketing mechanism.

- The Department provides statistical services which gather, analyze, and interpret economic price production and shipping data, to provide better information to those who make plans and decisions—farmers, businessmen, legislators, and housewives.

- The Department administers programs aimed to safeguard the Nation's food supply and wisely manage the natural resources of soil, water, ranges, and forests—to be used for the permanent good of all the people.

- The Department administers programs aimed at strengthening the farm economic position through income protection—not only through price programs but also through crop insurance.

- The Department administers credit programs to help farmers improve their farming and their living . . . and provides a broad service to farmer cooperatives.

- The Department carries on programs to improve the diets of Americans—both through research and through action programs to make highly nutritive foods available to more people.

- The Department administers extension and information services in response to its original mandate to “acquire and diffuse among the people of the United States useful information of subjects connected with agriculture in the most general and comprehensive sense of the word.”

- The Department acts as the U.S. farmer's representative overseas—in the market development, oversea distribution programs, and in gathering information through the worldwide network of agricultural attachés.

- Finally, the Department looks to the future with an aggressive program of Rural Areas Development—to stimulate and coordinate agency efforts that can be marshaled to develop more income and employment in rural communities.

First Comes Research

Man must spend as much time and effort as it takes to provide the food, clothing, and shelter required to sustain life. Until that is done, he has no time for any other pursuit. In that sense, civilization stands upon the shoulders of agriculture.

Because U.S. agriculture is efficient, 1 farmer can now feed 27 people. The other 26 are free to make other important contributions to the national economy.

Because U.S. agriculture is efficient, Americans spend a smaller share of their incomes for food than any other people in the world. In Western Europe, food costs take 30 to 45 percent of average family expenditures—in Russia over half. Here, we spend an average 20 percent of our disposable incomes for food.

Part of this high productivity is traceable to rich natural resources and a generally good climate. Some is the result of hard work and human ingenuity. But most of our farming efficiency is based on the results of research carried to the farm by extension agents.

The U.S. Department of Agriculture was founded in 1862 on the premise that if farm productivity was to be improved—and our civilization advanced—we needed sound, research-developed knowledge about plants and animals, soil and water, mechanization and technology, which could be applied to our agriculture.

That same year, Congress passed the act leading to the establishment of an agricultural college in each State. And in 1887 came the act providing for an agricultural experiment station in connection with each State college. That legislation authorized the use of Federal funds, administered by the U.S. Department of Agriculture.

This cooperative working relationship between State and Federal institutions resulted in the close kinship between research and education that has had a large share in writing the brief but surprisingly successful history of agricultural research in the United States. Out of this effort have come dramatic achievements in mechanization, food processing, the discovery of vitamins, modern animal nutrition, lifesaving antibiotics, and in many other fields.

This activity must be carried on along a wide geographical front because this is a widespread and diverse nation. In the continental United States

alone, some 5,500 known soil series are found in 514 different types of farming areas. And the recognized number of soils is increasing with new surveys and classifications.

The United States has five distinct climatic belts between the two oceans, with areas ranging from arctic to tropical. Great differences therefore exist in native vegetation and farm crops. These differences—and the resulting variety in farming patterns—make extremely useful the dual Federal-State nature of our agricultural research.

Production Efficiency—A Continuing Goal

State and Federal scientists work constantly to improve production efficiency—to help farmers provide the quality, abundance, and variety of food and fiber that consumers need and have come to expect.

Scientists in agricultural engineering are concerned with putting materials, energy, and men together in the best possible combinations.

Plant breeders are tailoring plants to fit special needs. For example, they are breeding crops to resist the ravages of insects, diseases, and weather—hazards that still cause excessive losses every year.

In livestock production, scientists develop animals that can convert the least feed into the most and best meat in the quickest possible time. In 1940, it took 13 weeks to produce a 3-pound broiler. Today, it takes only 9 weeks to produce the same-sized bird. And it can be done on half the feed.

Such efficient conversion of feed into meat is, of course, an important way to help livestock growers cut production costs, making it possible for the homemaker to serve meat as a regular part of the family diet—not just chicken every Sunday.

Basic Research Probes the Unknown

In more basic studies of plants and animals, scientists are studying the effect of light on plant growth. Knowledge in this field may very well help man control plant growth in all important aspects, from germination through flowering and maturing. The benefits to be derived from such complete control are practically limitless.

Scientists in the Department also study the basic functions of photosynthesis. This interaction of

light, carbon dioxide, and chlorophyll is fundamental to the development and maintenance of life on our planet. Yet, there is much about the process that we do not understand.

One method of tailoring plants and their development to suit the needs of man is through the use of plant growth regulators. Dwarfing chemicals, for example, hold back stem growth and halt the plant at the desired height. These chemicals are studied as a possible means of shortening the stems of certain plants to make them easier to harvest, or to prevent wind damage. Other chemicals lengthen plant stems. They might be used to advance the growth of a crop that must be brought to harvest in a short growing season—or to improve forage yields or speed the production of slow-growing timber.

Some of the most basic studies in livestock research are on blood antigens. Scientists are trying to learn more about how genes and hormones in the blood act together to form antigens. Once it is known how they are formed, perhaps they can be synthesized and used to combat diseases within the body. This research with animals may ultimately have important implications for human health.

Other scientists are studying viruses of both plants and animals. They are trying to learn how a virus develops, matures, and reproduces itself. These are fundamental studies of life itself, as well as the early steps leading to control of these disease-causing organisms.

In entomology, scientists are studying the basic life processes of insects, and how insecticide compounds affect these processes. They want to know how and why insects develop resistance to insecticides. They are trying to determine the types of diseases and pests that attack insect populations in nature. When some of these answers are known, perhaps they can be used to eradicate the more costly and damaging insects that are hazards to agriculture and human health.

Scientists in the Department are seeking a better understanding of the fundamental relationships of soil, plants, and water. As they know more exactly what happens to water as it flows through the soil, they should be able to save more of it. This knowledge will become increasingly important as the competition for water becomes more and more acute.

Department scientists have long been leaders of research in human nutrition; in effective consumer use of food, clothing, textiles, housing, and household equipment; and in efficient family management of money, time, and other resources.

New Farm Markets Through Utilization Research

Utilization research, to find new uses and wider markets for our farm abundance, began in earnest in the Department about 1940—80 years behind other types of research. Despite the late start and limited efforts so far devoted to it this research has clearly demonstrated its value. Benefits have far exceeded the cost.

In two decades, USDA utilization research added more than \$2.5 billion in value to farm commodities of many kinds, at a cost in Federal funds of less than \$200 million. Thus each dollar of utilization research yielded an average of \$15 in benefits to the economy. In the last few years, the techniques of utilization research have been improved and the new knowledge has gained wider and more rapid application. As a result, the benefit-cost ratio has also improved, reaching \$25 for each dollar spent.

New ways to use inedible fats in animal feeds have created a new market for 700 million pounds of surplus fats each year, worth about \$45 million a year.

New and improved industrial products from various seed oils have increased annual sales of vegetable oil by \$18 million. This kind of research has also given consumers highly durable and flexible sheet plastics, new foam plastics made from castor oil, and new linseed oil-water emulsion paints that are easier to apply and give a longer lasting finish.

Department research laid much of the groundwork for the cotton industry's development of wash-and-wear cottons. USDA scientists have developed many other cotton products and new ways of using cotton—all-cotton stretch fabrics, flame- and heat-resistant fabrics, and a more durable shade cloth for use in tobacco growing.

New food products have been developed, too. In frozen foods alone, utilization research has increased sales by \$765 million a year. This work has helped to establish more than 1,200 new processing plants, mostly in rural areas. It has helped to expand frozen food exports, now worth \$77 million a year and growing rapidly.

New dehydrated products have created about \$150 million a year in retail sales—plus a world of convenience for consumers. Dehydrated potato flakes are a big success, also new fruit-juice powders, high moisture dehydrated prunes and figs, dried eggs that retain their flavor in storage, and new ways of processing and using nonfat dry milk.

Scientists are developing animals that can convert the least feed into the most and best food and fiber in the shortest time.



BN-15248-X

Milk producer, 1915. Its 4,700 pounds then was above average.



BN-15253-X

Produced 14,863 pounds in 1948. Exceptional then, not now.



BN-15244-X

Our principal grass-fed beef producer of the 1800's.



BN-15247-X

Juicy steak today come from feedlot-fattened cattle.



BN-15250-X

Skin folds and a woolly face: lower-quality wool, fewer lambs.



BN-15258-X

Select for open face, get more, heavier lambs.

Lifesaving advances have been made in pharmaceuticals. Department scientists developed the mass-production methods that first made penicillin generally available. They also developed dextran, a storable synthetic blood-plasma extender, now in the Nation's emergency stockpile.

Outlook for Industrial Use of Farm Products

What of the future in utilization research?

A great opportunity lies in wider industrial uses for cereal grains. Department research scientists see real possibilities of diverting as much as 170 million bushels of cereal grains from feed and food to new industrial uses.

They are finding out that new materials derived from grains can be used by the paper industry to add both wet and dry strength where needed in paper products at competitive prices.

They are well along in developing a new type of corn that yields a rare starch valuable for use in a great variety of films, fibers, plastics, coatings, and other products.

They are developing new adhesives from starch with better water resistance, greater holding power, and other desirable properties.

Through grain fermentation they are creating entirely new organic chemicals needed by industry in a wide variety of processes.

These are a few examples of how USDA scientists are helping farmers, processors, consumers, and the national economy—through research. Most of this work is carried on by the Agricultural Research Service.

Prevent . . . Eradicate . . . or Control

ARS also carries part of its research a step further and puts it to work in regulatory activities that help to protect the Nation's crops and livestock from diseases and pests.

This regulatory work is guided by three firm convictions: First, it is better to keep out diseases and pests than to fight them in this country. Second, if they do slip past, it is better to eradicate them than to live with them. Third, if these fail, then control measures have to be set up.

Quarantine inspectors stand guard at our Mexican and Canadian borders and at all air and sea ports of entry. Foreign pests that might destroy crops and livestock are found in passenger baggage, mail, cargo, and ship's stores. In 1961, inspectors stopped

an inbound plant pest on an average of every 17 minutes around the clock. And there were more than 161 million inspections of travelers entering the United States in 1960. More than 820,000 animals and poultry were checked in 1961, and nearly 21,000 were denied entry.

Other State and Federal inspectors deal with the diseases and insect pests already established in this country. But despite their best efforts, and those of producers, livestock diseases and pests are costing agriculture about \$2 billion a year. They reduce our meat supply by claiming one animal out of every five.

The value of eradicating animal diseases whenever possible is illustrated by the outbreak of vesicular exanthema—or VE. The disease broke out of California in 1952 and spread rapidly throughout the country. In 1 month alone, 150,000 swine were infected or exposed to the disease. During its peak year, VE cost the livestock industry an estimated \$20 million.

In the meantime, it was learned from research that VE is spread chiefly by raw garbage fed to hogs. Action began immediately in the States to obtain laws requiring the cooking of garbage fed to swine. Quarantines were established. Infected and exposed swine were slaughtered, and all contaminated facilities were thoroughly cleaned and disinfected. By 1959 the disease was wiped out and the country is still free from VE.

New Eradication Weapons From Research

Plant pest control workers use the safest and most modern methods that scientists have devised for large-scale warfare against insects. For example, scientists eradicated the screw-worm from the Southeast by releasing flies made sterile through exposure to radioactive cobalt. As a result, native flies mated with the sterile flies and produced no offspring.

The Mediterranean fruit fly was eradicated from Florida through the use of a combined attractant and insecticide, sprayed from aircraft.

The Khapra beetle is a threat to the billions of bushels of grain, seed, and feed stored in this country each year. If the pest ever invaded Midwest grain stocks, it could cause untold damage. But control workers have confined the pest to four States in the West and Southwest, and are eliminating it by wrapping infested buildings in huge plastic sheets and then fumigating with methyl bromide gas.

The Safe Use of Pesticides

The Department carries on an aggressive and continuing program to help assure the safe use of chemical pesticides.

It administers the Federal Insecticide, Fungicide, and Rodenticide Act, which covers a wide range of farm and garden chemicals, requiring that these materials be registered before they may be shipped interstate.

Label review is a significant part of the registration process, making it possible for scientists in the Department to see that label directions and warnings are adequate, if followed, to assure safe and effective use of the product.

To be sure that users of pesticides on food crops have dependable guidance, the Department will accept for registration only those products which,

when used according to directions, will leave no residues at all, or residues that come safely within tolerance set by the Food and Drug Administration.

The effectiveness and hazard of ingredients, both active and inert, are judged by qualified USDA scientists, largely from data submitted by the registrant. The Department may also consult specialists at an agricultural experiment station, or wherever research has been done with the material, to evaluate its performance and possible hazards.

The Department also cooperates with the land-grant colleges and with farm and trade organizations in educational programs to emphasize the safe use of pesticides. These programs, stressing the importance of following label instructions when using chemical pesticides, are aimed at both commercial producers and home gardeners.

The Marvelous Marketing Machine

More than 60 cents of the consumer's food dollar now goes for marketing—for the various activities that take place between farmer's field and housewife's table. USDA services are aimed at making the wheels of marketing run more smoothly.

As American as ham and eggs!

Breakfast as we know it *is* something of an American institution. Moreover—and more important—it is an institution of supreme dependability. You can count on it for quality and for wholesomeness. You can count on it for abundance and variety at reasonable cost.

This dependability is no accident, but rather the product of an infinitely complex and successful marketing system aided by services of the Department of Agriculture. The hand of the Government marketing specialist is constantly present. A typical American breakfast may consist of:

- Eggs graded by a USDA specialist.
- Bacon or ham approved for wholesomeness by a USDA inspector.
- Toast and cereal from grain marketed with the help of USDA market news services.
- Frozen orange juice produced under continuous USDA inspection.
- Coffee purchased over a conveyor-type checkout stand devised by USDA researchers.

Even the morning newspaper may be made from trees protected from fire and insects by USDA people—but that is a story for a later chapter.

Here we are concerned with the activities that occur after farm crops have been harvested and the livestock has been fed out—activities that account for more than 60 cents of every dollar the American consumer spends for food. This is marketing—one of the vital concerns of the Department of Agriculture.

It is vital for two reasons:

First, because of the big physical job of moving our food supply regularly, dependably, and safely for 1,095 meals a year for each of our 187 million consumers. Remember—these are essentially perishable products, many of them harvested only once a year.

Second, because marketing is the process that translates farm products into economic value. The farmer must depend upon it for the returns on his labor and investment.

Congress, recognizing the importance of marketing, has called for an integrated administration of all Federal laws aimed at improving the distribution of farm products through research, marketing aids and services, and regulatory activities.

USDA marketing programs are directed toward modernizing, streamlining, and greasing the wheels



N-32602

Buyers look at a pen of fat cattle at a Midwestern market where trading is regulated by a Federal law.

of the whole vast national marketing mechanism—to help keep it moving quickly, efficiently, and with the least possible waste.

The term “marketing” means all the processes that occur after the product leaves the farm—the buying and selling, assembling, transporting, warehousing, processing, grading, packaging, merchandising—in short, all that is required to turn a steer into a steak, to make the wool from a sheep into a gray flannel suit, and to fill the shelves of a modern supermarket with 8,000 different items.

The public interest demands that this marketing system be as efficient and economical as possible and that it preserve our traditions of fair competition and free enterprise. USDA pursues these goals through services such as market news, public inspection and grading, research, and the enforcement of many rules of trading. Mandates and authorities from some 30 separate basic laws relate to the basic but complex process of moving food and fiber from farm to consumer.

The Measurement of Quality

Much of the grading that goes on is never apparent to consumers, since most of it is done on food products in wholesale lots. But because of it, and other marketing improvements, consumers are getting better foods than ever before.

Every working day, graders and inspectors of the Department are on the job, determining and certifying the quality of the foods and fibers being marketed. They work in meat and poultry packing-houses, in fruit and vegetable- and cotton-producing areas, in tobacco auction markets, in the labora-

tories and at the production line in processing plants, in terminal markets and urban wholesale houses.

They work, in fact, at any point where farm products are assembled into the large lots required for today’s mass merchandising. The tools they work with are the grades and standards developed and issued by USDA—nationally uniform specifications that are a real necessity in modern trade.

U.S. Grade A, U.S. No. 1, Middling White, U.S. Choice—such is the language of trade in farm products. These grade names describe qualities of food and fiber just as pounds, dozens, and quarts describe quantities. In the same way, they are based on certain definite standards—the U.S. standards that are the basis for the quality grades.

The use of the U.S. standards and the grading services is mostly voluntary. In some cases, however, local, State, or Federal laws require their use. The U.S. Grain Standards Act, for example, requires inspection by a license inspector when grain is shipped by grade in interstate commerce.

While by far the largest amount of grading is done on wholesale lots, consumer grades are widely used for some products. About 80 percent of the turkeys produced carry the USDA grade mark when they appear in retail stores. About half of all beef is graded by Federal graders; in this case, “wholesale” carcass grading simply carries through to the retail level. And almost everyone is familiar with the USDA grade shield on butter packages and egg cartons.

Making Sure of Wholesomeness

Perhaps, however, the most familiar of USDA symbols are the round inspection marks assuring consumers that meat and poultry products are clean, wholesome, and free from adulteration.

More than 5,000 Federal inspectors are on duty in meat and poultry slaughtering and processing plants. The work is directed by highly trained professional employees who are graduates in veterinary medicine. Through their efforts in 1962, 25 billion pounds of meat and poultry were certified to qualify under the high standards set for wholesomeness and safety.

Federal inspection of meat and poultry products in this country begins with the plant itself—with the blueprints for construction. Building and remodeling plans must be approved by the Department before a slaughtering or processing plant is granted Federal inspection. This insures that the structure affords proper facilities for sanitation, best pro-

visions for handling the product, and ample opportunities for proper inspection. The design and the materials used in construction must be such that there will be no difficulty in maintaining sanitary conditions after the plant goes into operation.

In the case of cattle, hogs, and sheep, Agricultural Research Service inspectors start with the live animals resting in the holding pens. Each one is inspected and any questionable ones are diverted for further attention or for outright condemnation.

This careful inspection continues after the slaughtering operation with examination of each carcass and the internal organs. Supervision is carried through each stage of curing, canning, sausage making, or other processing.

This same careful inspection extends to poultry. Every chicken, turkey, duck, goose, or other poultry processed in plants dealing across State lines is examined for wholesomeness by poultry inspectors of the Agricultural Marketing Service. The inspector must also see that the proper operating procedures and sanitary measures are carried out every working day. He must make sure that the product is wholesome, free from adulteration, is packaged in approved wrappings, and is truthfully labeled.

The Department also looks to the safety, wholesomeness, and appropriate use of all ingredients and materials used in connection with meat and poultry food products. Several Department laboratories are maintained as aids to inspectors in the continuous checking and testing of all such materials. No chemical or other additive may be used without specific Departmental approval after thorough evaluation to

One of 5,000 Federal inspectors applies the USDA grade mark to a beef carcass.

N-28254



determine the safety and wholesomeness of the ingredient.

The Department also offers voluntary continuous inspection services, at a fee, for dairy products, egg products, and rabbits. These inspection services may or not be provided in conjunction with grading. In either case, they provide the same sort of sanitary and operating controls in processing plants as are provided under meat and poultry inspection.

Continuous inspection of fruits and vegetables—canned, frozen, dried, and fresh—is available through another type of grading service. To obtain this service the processing plant or packing shed must meet rigid sanitary and operating requirements that will assure wholesomeness of products.

Manufacturers who employ any of these voluntary services are entitled to carry on their labels the official Government shield which states that the product was prepared under continuous USDA inspection.

Data for Decision

Part of the nerve system of farm marketing is the 15,000-mile leased teletype wire that serves as the basic channel for USDA market news. Through this system each day moves a continuous flow of live market information, to be relayed to millions of interested people by the mass news media—some 1,500 radio stations, 170 television stations, and 1,800 daily newspapers and trade journals.

Market news, available to all, is essential to the proper working of our economic system. For supply and demand to function properly in setting price, accurate market information must be freely available to both buyers and sellers. If only buyers, for example, have access to information, sellers are obviously at a trading disadvantage.

Almost everywhere that trading in farm products goes on—in the country and in the city—USDA market news reporters are at work, checking on quality and quantity of commodities offered and sold, prices paid, demand, movement, and trends. Market reporters gather and document their information through personal observation of transactions, by talking to buyers and sellers, by checking sales records. This information is transmitted between market centers by teletype on a regular schedule and is made available to the press and broadcast media throughout the country.

Farmers and others dealing in farm products use market news daily in making decisions on how much and what kind of product to grow, where and when

to market, whether or not to accept a given price bid. This information helps to keep the marketing pipelines filled but not overflowing.

Market news reports may help an Illinois hog grower, for instance, to decide whether to ship his hogs to Chicago or East St. Louis, or to sell them at a nearby auction or direct buying station. If a heavy run is reported, he may decide to hold back for a few days. He will likely get these reports from his local newspaper or from radio or television—reports provided to these media by the Government market news reporters.

Market news continues to grow in importance. Farmers today have an increased need for this information as they face growing competition from other areas in supplying the mass merchandising system that characterizes modern farm marketing.

Improved Marketing Through Research

Out of every 5 acres growing perishable products, the produce of 1 acre is lost through waste and spoilage in the marketing channels. This loss takes place in a farm marketing system that is second to none in the world, but which still offers many problems.

It is the job of USDA market research to solve these problems. In Washington, at Beltsville, and at field stations throughout the country, researchers are seeking ways to bring our abundant farm production to market in better condition at less cost. Besides reducing waste and spoilage, they seek to:

- Find ways of reducing the number of times food and fiber is handled, sampled, and graded before it reaches the consumer. Now some products are handled 20 times on their way through the marketing system.
- Find better and more objective methods and instruments to measure quality of farm products, so that inspectors and graders can do a more efficient and exact job.
- Find ways of cutting the costs of transportation. This item alone takes a big share of the consumer's dollar.

Marketing research reaches in many directions—from basic research into the very nature of living tissue to the designing of modern food distribution centers. It includes a constant war against insects in stored grains and feeds, woolen products, dried fruits, nuts, tobacco, and other items. Researchers work on packaging to keep insects out. They work on chemicals to destroy these pests.



N-44205

USDA workers developed this apple pressure tester to determine the maturity of apples. Consumers get better conditioned apples.

Often marketing losses are caused by changes within the food itself. Marketing researchers study decay, spotting, discoloration, and other types of spoilage. They study the temperature and humidity requirements of fruits and vegetables in storage and transit. They study mechanical damage that happens in sorting, washing, drying, and packaging. And they study packaging materials.

Another group is concerned with up-to-date facilities and work methods to cut handling costs. This often means remodeling or eliminating old wholesale market facilities that have become colorful but expensive bottlenecks in the lifelines of burgeoning metropolitan centers. Sparkling new distribution centers are now serving 24 cities—not built at Federal expense but built with the planning assistance of USDA researchers. They are saving millions of dollars.

Marketing research seeks constantly to develop improved transportation equipment, better loading methods, and new types of shipping containers. The wide use of pallet boxes, with a resulting increase in mechanization, is a product of the marketing researcher's work.

All of these activities—and many more—are helping to increase efficiency and lower the costs of moving the Nation's farm products to their millions of consumers, to provide better food, in better condition, at the lowest possible cost.

Preventing Gluts and Unfair Returns

Another type of Department program is aimed at market stability for certain perishable commodities

that otherwise would be subject to market gluts and unfair returns to producers.

Federal marketing orders—for milk, and for various fruits, vegetables, and tree nuts—provide a means by which producers and handlers, with the approval of the Secretary of Agriculture, can develop and maintain orderly marketing conditions and reasonable prices for their product. This cooperative approach to commodity marketing problems was re-emphasized and strengthened by the Agricultural Act of 1961.

A marketing order may be issued by the Secretary of Agriculture only after a public hearing on the proposed order and approval by producers voting in referendum.

For fruits, vegetables, and tree nuts, a marketing agreement and order program permits an industry to regulate the handling and marketing of its crops so as to prevent an erratic flow to market, reduce the total supply in primary market channels, prevent low-quality produce from depressing prices, standardize containers and packs, and prevent unfair trading practices.

For milk, a marketing order contains specific provisions to set minimum prices to be paid by handlers based on supply and demand conditions, and to divide among the producers the returns for their milk. Regulations for milk orders involve classification according to use, with minimum prices varying according to how the milk is to be used.

Protecting Our Free Markets

Free and open competition in the Nation's great markets is essential to the successful functioning of our economic system. Congress has therefore enacted regulatory laws to assure fair trading . . . to prevent "rigging" or price manipulation.

Market news made in the downtown building that houses the Chicago Board of Trade is more closely watched in many farm communities across the Nation than news from almost any other source.

Prices registered on the trading floor of the "Big Board" set the pace in the marketing of corn, soybeans, and wheat at country points throughout the Grain Belt and beyond.

These commodity prices that farmers are watching are the prices of "future"—the December, March, May, and other "near" and "distant" futures which measure the supply and demand for grain, now and in the months ahead.

It works like this. A farmer gets today's Chicago futures prices—from radio, television, or newspaper. From these prices he can determine the "going" price of cash corn at a nearby elevator, taking into consideration transportation and handling charges. If he thinks that the price is favorable, he might decide to sell. If the price has declined, he might hold up. In this way, futures prices serve as base prices in guiding farmers' marketing decisions—whether to sell now, put a crop under price support loan, or hold for later sale.

For farmers to use futures prices with confidence in marketing actual commodities, the trading that

makes the price must be fairly and competitively conducted to make sure that artificial forces or price manipulations do not distort the futures prices on which sales of cash commodities are based.

That basic fact is behind the law that directs the U.S. Department of Agriculture to regulate this vital area of futures trading. A similar philosophy supports the regulatory laws covering business practices in the marketing of livestock, meat, poultry, fruits, vegetables, and seed . . . all helping to preserve the free and open competition upon which our economy is based.

Regulating Futures Trading

Regulating the area of futures trading is the responsibility of the USDA's Commodity Exchange Authority. It supervises trading on the Chicago Board of Trade, Kansas City Board of Trade, Minneapolis Grain Exchange, New York Cotton Exchange, and 13 other exchanges designated as "contract markets" under the Commodity Exchange Act. It watches over 18 agricultural commodities subject to futures trading regulation under the act.

CEA people enforce limits on speculation in corn, wheat, oats, rye, soybeans, cotton, and shell eggs. These statutory limits on large speculative holdings and daily trading help to curb unwarranted price movements, and their enforcement is an important part of the day's work.

Futures trading provides another essential marketing service—hedging. This is nonspeculative trad-

ing in futures, to protect actual handlers of commodities from losses due to price fluctuations.

For example, a farmer or grain elevator with 5,000 bushels of grain unsold would have a \$500 loss from a 10-cent price decline. To avoid such a loss, a hedging sale of 5,000 bushels is made in futures. If prices decline 10 cents, the future sale would show a gain of \$500 less commission. The gain realized by selling the future at the higher price, and buying it back later at the lower price, reduces or offsets the loss on the actual grain.

Many commodity firms, merchants, farmer cooperatives, and some individual farmers make hedging sales in futures to reduce price risks on actual commodities owned. Merchants and processors needing the actual commodity may make hedging purchases in futures to reduce price risks on forward sales of cash commodities or byproducts. One of the CEA's jobs is to safeguard commodity hedging facilities so that the competitive markets are able to shoulder a more substantial part of the cost of carrying commodities.

CEA investigates possible violations of the Commodity Exchange Act and takes corrective steps where evidence is found. Action may involve the issuance of an administrative complaint looking toward the suspension or revocation of the violator's registration as a futures commission merchant or a floor broker, and the denial of trading privileges on all contract markets. Or it may involve criminal charges which could result in fine or imprisonment.

Futures trading is a multibillion dollar business involving many millions of transactions a year. In keeping watch on this trading, the Department helps to make the futures markets a safer place to do business, protects a competitive pricing system extending from the farm to the grocery store, and safeguards the hedging service in marketing to help hold down the price spread between the farmer and the consumer.

Regulating the Livestock Trade

One of the oldest and broadest regulatory laws administered by USDA is the 1921 Packers and Stockyards Act.

This law is designed to assure free, open, and fair competition and fair business practices in the marketing of livestock, meat, and poultry—all the way from the farm to the retail store.

One objective is to help producers get true market value for their livestock and poultry, and to protect them from unfair charges and inadequate services

at public markets. The law also seeks to protect consumers against unfair business practices in the marketing of meats and poultry, and to protect those in the marketing and meat industries from unfair practices by competitors.

AMS supervises operations of stockyards, auction markets, market agencies, dealers, and meat-packers through periodic visits to make sure that they are in sound financial condition and employ fair business practices under free and open competition. Included is supervision of the testing, maintenance, and operation of scales used by these firms.

Perishable Agricultural Commodities Act

"Get what you pay for—and pay for what you get." That sums up the code of ethics which this act provides for the fruit and vegetable industry. It prohibits unfair and fraudulent practices, and provides a means of enforcing contracts in interstate or foreign commerce.

Under the act the seller must ship the specified quantity and quality. The buyer must pay promptly for purchased shipments and issue accurate accounts of sales and pay proceeds due for consigned shipments. Misbranding and misrepresentations are prohibited.

Under it, too, representatives of the Agricultural Marketing Service try to bring complaining parties together in informal settlements of unfair trading practices. If that doesn't work, the Department may hold a formal hearing, after which it may issue a reparation award.

AMS representatives also make spot checks at packing sheds, shipping points, terminal markets, and similar places, to enforce prohibitions in the act against misbranding.

Regulating Trade in Seeds

Good seed is basic to good agriculture—and to our food, feed and fiber crops. Enforcement of the Federal Seed Act therefore protects consumers as well as farmers and all who deal in seeds.

This law requires that all agricultural and vegetable seeds that move in interstate commerce be truthfully labeled. It prohibits false advertising, and it prohibits imports of low quality seed and screenings.

AMS enforces this law in close cooperation with State governments. It analyzes suspected seed samples in six Federal seed laboratories, and tests all imported farm and vegetable seed for full protection to farmers and consumers.

U.S. Warehouse Act

As custodian of stored farm products, under terms of the U.S. Warehouse Act, AMS plays an important role in safeguarding the financial interests of farmers

at public markets. The law also seeks to protect licensing under the Warehouse Act is provided only to those who request it and can qualify. It is now being provided to 1,800 public warehouses in 37 States.

Charting Economic Growth

Economic reporting and analysis are important to both farmers and businessmen . . . and essential to growth in the economy. New tools and techniques are being brought to the old job of estimating and forecasting.

The United States has one of the best informed agricultural industries in the world, thanks to a century-old system for gathering statistics and a well-established program of economic analysis and research.

Crop reporting is one of the oldest functions carried on by the Department. Monthly and bimonthly reports on the condition of crops were begun by USDA in 1863, based on voluntary reports from crop correspondents.

Crop reporting today is still based on the services of voluntary reporters—some 600,000 experienced farmers and ranchers, 70,000 local merchants; 6,000 ginners; 4,000 hatcheries; 41,000 dairy plants; 9,600 meatpackers; and 14,000 mills, elevators, and warehouses.

To add to the precision of their estimates, USDA statisticians also gather data by objective measurements. Trained technicians make actual counts and measurements of crops in sample plots several times during the season.

To gather information on land use, number of livestock on farms, and farm labor, enumerators visit all the farms in scientifically chosen segments of land throughout each State.

Information gathered by these objective methods is combined with the judgments provided by volunteer reporters.

As farming has become more specialized and more commercial, huge industries have grown up to supply the needs of agriculture and to process and distribute the farmer's products. With those changes have come demands for more statistics on more kinds of products, more frequently, in greater detail, and with greater precision.

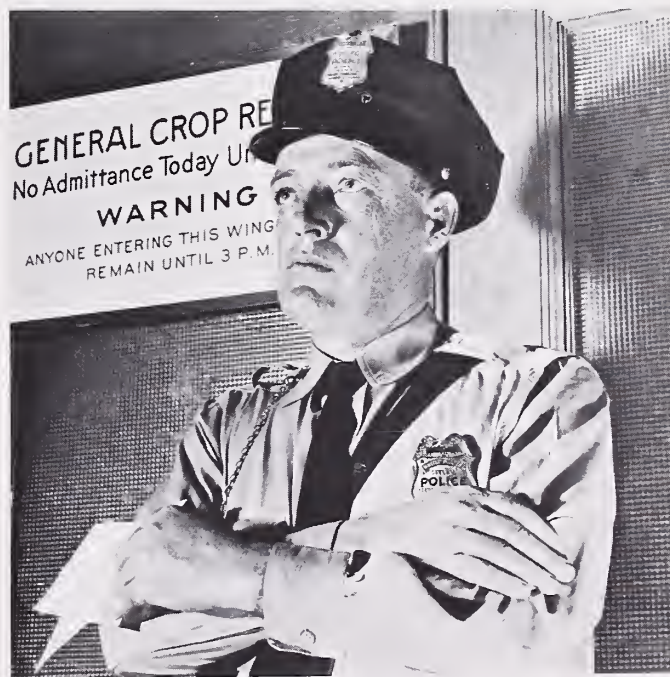
In years past, for example, it was enough to know how many cattle were on U.S. farms on January 1,

compared with earlier years. Later, it became important to know how many of these cattle were kept for milk and how many for beef. Now, the Department estimates cattle on feed and breaks down the total to indicate numbers by weight group, length of time on feed and locations, so that producers and dealers can judge the approximate time and place of marketing. Frequency of reports varies from State to State with the importance of cattle feeding; in important cattle-feeding States, reports are issued each month.

Likewise, statistics are gathered and reported weekly for the rapidly growing broiler business and for portions of the vegetable industry.

The Department issues more than 700 statistical reports each year in Washington, and additional reports from its State offices.

For most field crops, the annual cycle of estimates starts with intentions to plant, going on to



N-663

Crop reporting board goes into "lockup" with guard at door on day report comes out. Anyone who enters may not leave until report is ready to be released to all.

crop acreages and yield forecasts, then to harvested acres, production, followed by utilization of the crop and periodic reports of supplies in storage.

Computation of data, especially from the objective measurement studies, has been speeded up through the use of electronic computers.

These high-speed machines also are used for rapidly solving complex problems in economic research; and between peakloads in crop reporting they are used by all agencies of the Department.

Provided with facts, usually in statistical form, economists then can begin their work of analysis and interpretation. This work has many targets—helping the farmer make his many decisions—providing basic information for the development of farm policy and the administration of farm programs—supplying information on prices and supplies of food for housewives—helping to expand the market for U.S. farm products at home and abroad.

The work of USDA agricultural economists falls into these main categories: Farm economics, marketing economics, economic and statistical analysis, foreign regional analysis, and analysis and development of foreign trade.

To meet the need for economic information, the Department publishes about 100 Outlook and situation reports each year. These reports analyze the changing situation and forecast the most probable future developments. Farmers use these materials in deciding what to produce and when to sell. Other users are those who collect and assemble farm products, who transport and process them, those who buy and sell at wholesale and retail levels, those who ship to foreign markets.

In addition to keeping a sensitive finger on the economic pulse of agriculture, the Economic Research Service has a research program as broad as agriculture itself. Research reports—about 3,000 a year—present these findings to the public. People engaged in every stage in agricultural production and marketing make constant use of these findings. Much of this research material is requested by Members of Congress to assist them in developing legislation.

Much of farm economic research is designed to answer questions, “Will it pay?” “Which is the best choice?” applied to new farm techniques, needed adjustments, new equipment, proposals for land and water use and development. Recognizing the fact that the marketing costs take about 60 cents of the consumer’s dollar spent for food, Department economists are constantly studying costs of market-



N-25798

The Department has turned to electronic computers for greater efficiency in solving complicated statistical problems.

ing farm products and testing ways of reducing those costs. In the rural development program, economists are studying the origin, extent, location, and nature of low-income conditions. They are concerned with developing and evaluating possible methods of increasing employment and income in rural areas.

While much economic research is directed at specific problems, fundamental investigations are also underway—for example, studies of agriculture’s role in the economic development programs of underdeveloped countries. There is need for a much better understanding of the complex economic, social, and political factors as they may operate at a particular stage of development.

In the fast-moving, ever-changing world, we must stay alert to identify the emerging problems, to catch them while they are small. Agricultural economists today must project into the future the answers to tomorrow’s problems.

Economic research keeps abreast of changing times by measurement, evaluation, and appraisal of problems as well as a determination of how the problems have arisen. From such continuing appraisals there is being built a foundation of economic information that can be marshaled against the tough and persistent problems of agriculture, today and tomorrow.

Resources: Present and Future

All Americans have an important stake in the conservation of our soil and water. Government, therefore, has been given a major role in programs to assure wise use and management of these resources—now and perpetually.

Fifteen years ago Smith County, in the rolling hills of Tennessee, was a gullied, washed-away countryside that had been “corned” to death. Farm income was low; business was poor. Today this county has been transformed into a pleasant region of grassland and livestock, with attractive farms 90 percent electrified, good farm equipment, and prosperous farm people. Bank assets have grown tenfold.

The transformation from corn to grass, from backyard wash pot to automatic washer, Smith Countians say, is due largely to the soil conservation district organized by farmers there in 1945.

In nearly every community in the Nation, the soil conservation district is the central source of help and information about soil and water conservation. Districts now include 93 percent of the Nation’s agricultural land and 96 percent of the farms and ranches. Twenty-four States are completely covered by districts.

A district—like a school board—is governed by local people who serve without pay. Each district is authorized by State law to develop a conservation program and to enter into working agreements with various public and private agencies, including the Department of Agriculture.

USDA’s program of technical assistance in soil and water conservation is carried out through these arrangements with locally organized soil conservation districts. The backbone of this program is the help it gives to the individual land user in developing a conservation plan fitted to his long-range intentions and to the needs and capabilities of his land.

In developing and carrying out this plan, the landowner or operator gets technical help from skilled conservation technicians who are assigned, through the Soil Conservation Service, to assist each local soil conservation district. These technicians, in turn, are backstopped at area, State, and National levels by a staff of trained specialists in each of the wide range of technical fields required to solve land and water problems.



DEL-10327

Technicians work with farmers on soil and water conservation plans. Local soil conservation districts now cover 93 percent of Nation’s agricultural land.

Cost sharing, credit, and other forms of USDA assistance are also important elements in carrying out conservation plans.

Sharing the Cost

In fact, the idea of Federal cost sharing is a kind of catalyst in many of these conservation efforts.

This program makes use of a farmer-Government partnership, handled through farmer committees at the State and county level. It recognizes both the farmer’s responsibility for protecting and improving his land and the public’s responsibility for bearing its share of the cost.

With this kind of assistance, farmers establish grass, legume, and tree cover; improve existing vegetative cover; and establish or improve timber stands. They build small dams for water storage, construct sod waterways and terraces, and level land to conserve irrigation water. They apply lime to support the growth of vegetative cover, and carry out many other needed conservation measures.



GA-D3-155

Lakes created under small watershed program not only prevent floods. They beckon swimmers, boaters, water skiers, fishermen, and others to healthy recreation.

The program helps lessen flood damage downstream as well as hold and control rainfall on farmland—and provides emergency assistance to farmland damaged by drought, hurricane, and floods.

Through cost sharing, farmers and ranchers invest their own money, time, machinery, and labor, amounting nationally to about half the cost of installing conservation measures. Government assistance in the form of materials, services, and financial aid accounts for the other half. More than a million farmers participate each year.

This cost-sharing activity is carried on under the agricultural conservation program established by the Soil Conservation and Domestic Allotment Act in 1936 to help farmers adjust the use of their land and carry out soil- and water-conserving practices. It is administered by the Agricultural Stabilization and Conservation Service.

The “Whole Watershed” Idea

Floods, erosion, and water shortages go hand in hand. These are related problems which do not stop at property boundaries or county lines. They affect everybody in a watershed—all the people who live and work in a given drainage area.

That is the reason behind the “whole watershed” approach to flood control and conservation known

as the small watershed program. The Department of Agriculture provides both technical and financial aid to local sponsoring organizations for small watershed projects which may include development of water for agricultural, municipal, industrial, wildlife, and recreational uses, in addition to primary objectives of flood prevention and soil conservation.

These are small “community size” projects, limited by statute to 250,000 acres—or a little less than 20 miles square. Many of them range down to about 3,000 acres, or some 4½ square miles.

These projects are also community oriented. Success usually means enlisting wide support among businessmen, civic groups, sportsmen’s groups, and professional people in the town—as well as the farm groups affected.

The local sponsors of a watershed often include representatives of this type of organization—in addition to one or more soil conservation districts, a water conservancy district, or a similar group.

There are, of course, strong reasons for urban people to be interested, since the benefits of a watershed project extend far beyond the farmer’s fences.

By stabilizing land in the watershed, a project reduces maintenance costs on roads and bridges. By establishing flood-prevention dams, it makes water available for “multiple use”—for municipal water, industrial development, wildlife, and recreation.

A project in west-central Illinois, for example, will reduce flooding of farmland in the Big Blue Creek watershed. But it also has ended the chronic water shortage worries that have plagued the town of Pittsfield.

The area now has a 240-acre lake and a new treatment plant that will send pure water to local homes and industries.

Six Mile Creek watershed in Arkansas—besides saving \$45,000 a year in flood and sediment damages—has brought three new manufacturing plants to the area. These plants employ more than 400 local people and have combined payrolls of more than \$1 million a year. All draw water from flood-detention dams that are a part of the watershed project.

In the Mud River watershed in Kentucky, 25 dams are being built for flood prevention—and many of these are earmarked for other uses as well. One 800-acre lake provides wildlife habitat and recreation. Seven other flood-prevention structures have also been stocked with fish, and still another multiple-purpose dam will supply water to the city of Lewisburg.

Other changes—more subtle but just as important—are taking place on farms in the upland areas of the watershed. More than 60 percent of the landowners in the watershed are cooperating with their soil conservation districts in applying land treatment.

Without aggressive measures of this kind—terracing, stripcropping, improved pastures and woodlands, contour farming—the expensive downstream structures would in a few years be silted and their effectiveness destroyed.

For this reason, the governing law required that—in order for a retention reservoir to be installed with Federal assistance—there must be conservation agreements on half the land above the structure. If a special sediment hazard exists, then 75 percent of the land-treatment measures must be applied or in process in the critical area.

These are responsibilities that fall mainly to individual farm operators. Cost sharing under the Agricultural Conservation Program helps farmers to meet these financial obligations without delay. And technical services provided through the local soil conservation district help them in the proper application of practices.

The opportunities are great in small watershed protection. Surveys show that the United States has about 8,300 watersheds that would benefit from this kind of small watershed treatment. To date, 376

projects have been authorized under the program, and many more are in the application or planning stage.

Wind and Water in the Great Plains

The Great Plains of our Nation present a particular conservation problem. Once known as the “Great American Desert,” this region is now a far cry from that scoffing description. It is a highly productive area—tremendously important in grain and livestock.

Nevertheless, it is a region of rather sparse rainfall in most years, and there have been periods when bad weather and misuse of the land combined to create human tragedy on a grand scale. The decade of the 1930's is of course the classic example.

Since that time, conservationists have done much to bring about land use changes and soil and water control measures in the Great Plains. A shifting of some croplands back to grass, the improvement of rangeland and pastures, and modern stubble-mulching techniques are among the vital steps taken—to tie down the soil against the threat of drought and high winds.

The peculiar needs of the Great Plains have resulted in a special Government effort—the Great Plains Conservation Program. This program is aimed at long-term conservation planning in selected counties of 10 Plains States. It is a pioneering effort—a rather singular one as well—working as it does with a wide range of public and private resources to meet special climatic hazards.

The Great Plains Conservation Program requires complete conservation planning for 3 to 10 years ahead, with cost sharing obligated in advance so that the farm or ranch operator knows when he starts out that his conservation plan can be made to come true. About 9,000 farmers and ranchers—with some 23 million acres—are now in the program. Another 3,000 applications are on hand.

The 87th Congress extended through 1971 the period during which new applicants can enter the program.

Overall responsibility for the Great Plains program is assigned to the Soil Conservation Service, which has both technical and cost-sharing roles. Also important is Federal cost sharing under the Agricultural Conservation Program, administered by local ASC committees.

The Cooperative Extension Service and many other Federal, State, and private agencies blend in their services, where needed, to help each cooperat-

ing farmer and rancher arrive at a practical design for success.

Mapping Our Soils

The basic patterns in any conservation blueprint are provided by Government soil maps—maps that show the kinds of soil in field and farm.

Soils are classified and named, just as are plants and animals. They are identified by such characteristics as the kinds and numbers of horizons, or layers, that have developed in them. Helping to distinguish these horizons are the soil texture, the kinds of minerals present and their amounts, and the presence of salts and alkali.

Soil mapping is the function of the National Cooperative Soil Survey. This Survey is developed and published, county by county, to provide soils information needed not only for farm purposes but also for a growing number of nonagricultural uses.

The town planners of fast-growing Danbury, Conn., asked for a special soil map of their 42 square miles. Farmers and USDA technicians responded with a simplified map that provided a three-dimensional portrait of soil and water resources and conditions.

Using the map as a base reference, Danbury's professional planners designed a master layout to allocate housing, industry, schools, shopping centers, and roadways for 30,000 additional residents expected in the future. They were able to anticipate problems that construction men might face. They were able to define areas that are unsuitable for homes or industry because of flooding or poor drainage.

The Soil Conservation Service has Federal responsibility for the Survey, made in cooperation with the State agricultural experiment stations, the Forest Service, and other agencies. Some 1,200 field soil scientists of the SCS are at work mapping soils throughout the Nation at the rate of about 50 million acres a year.

These men inventory soil resources of each area. They examine soil, field by field, and record their findings on aerial photographs, which become soil maps that are used in developing farm and ranch conservation plans and are also printed for general use.

Soil surveys are used by farmers and ranchers to learn the extent and location of the different kinds of soil they have, the ability of these soils to grow plants, and their response to management.



IDA-35065

Snow surveyors measure water content of mountain snowpack to estimate runoff of watershed. These two are showing how snow sampling tube should be weighed.

Measuring the Snowpack

Most of the water for the West—for agriculture, industry, cities, power—comes from the snow that falls in the high mountains.

How much water will be available is determined by snow surveyors who measure the water content of the mountain snowpack in the winter and estimate the acre-feet of runoff of each watershed.

Several times each winter about 1,200 snow surveyors measure the snowpack on more than 1,400 snow survey courses in remote, rugged mountain areas of the Western States and British Columbia. Each year they cover more than 71,000 miles via skis, snowshoes, oversnow machines, and aircraft in the roughest kind of country, under hazardous climatic and physical conditions.

The Soil Conservation Service coordinates and reports the results of snow survey activities of about 100 public and private agencies and organizations in the Western States.

Your Acre of Forest

The forest conservation job of USDA includes not only the national forests—but also cooperation with States and private owners in research and protection. It covers all resources—wood, water, grass, wildlife, and recreation.

Every man, woman and child in the United States owns 1 acre of national forest land. That is one way of saying that every citizen owns a share in the 186 million acres of the national forest system.

Your acre does a big job. It—and other acres in the 154 national forests and 18 national grasslands—provide water essential to the agriculture and industry of a dozen States.

They include the headwaters of many of our great rivers.

They provide the water for two-thirds of the irrigated farmlands of the West.

They provide the flow for 600 major waterpower developments and for 1,800 western communities—all fully dependent on national forest watersheds.

They provide grazing for 6 million head of livestock.

They are America's favorite playgrounds, with 100 million recreation visits in 1961.

They are America's largest unposted hunting and fishing ground . . . providing a home, in fact, for fully a third of America's big game.

They harvest enough timber for sale each year to make a 6-foot boardwalk from here to the moon.

And they harvest an unmeasurable yield of scenic values, wilderness beauty, and human satisfaction—within a day's drive of almost any spot in America.

The national forests consist largely of land reserved from the public domain by Presidential proclamation under the act of March 3, 1891. These lands have always been in Federal ownership. In 1905, the forest reserves were placed under the administration of the Secretary of Agriculture, and the Forest Service was created to administer them. Later their name was changed to national forests to reflect a conservation policy of resource utilization rather than preservation.

Today the Department's forestry job is much broader than the national forests alone. It is as broad as the entire forest conservation job in America—some three-quarters of a billion acres of land.

This acreage—representing one-third of the land area of the 50 States—is the total forest land of our

country. The Department of Agriculture has a definite responsibility to help protect and manage—directly or indirectly—all the resources of most of that land.

By all resources is meant more than timber in trees and the wood that goes into lumber for homes and furniture, or into paper and thousands of other products. The job also covers the rangelands that are a part of the forests, the fish and the wildlife, water, and outdoor recreation.

It is not simply a matter of using and enjoying the forests. These resources must be protected, managed, and developed, if they are to keep on serving today's Americans and those who follow. This, in simple terms, represents the responsibility and concern of the Department of Agriculture and the Forest Service in forest conservation.

This broad assignment includes cooperation with the States and private forest owners in bringing good forestry practices and protection to their lands, and forest research—finding the best ways to manage, protect and utilize the resources of our Nation's wildlands—both public and private.

Work in the National Forests

The 1954 national forests are located in 39 States and total 182 million acres. The national grasslands,

National forests bring water to homes and industries provide timber for building and paper, and give millions an opportunity for outdoor recreation.

FS-494692



also administered by the Forest Service, account for 4 million acres. If you were to put all these forest lands together in one place—you'd get one big forest equal to all of New England, New York, Pennsylvania, and the Atlantic coastline States down through the upper half of South Carolina.

The national forests are of many different kinds. They are hardwood, evergreen, and dwarf alpine forests; they are forests of giant-sized redwoods and Douglas-fir, young forests and old forests. They include many different kinds of topographic features—rugged mountains and timbered valleys in the West, more gentle but nonetheless colorful mountains in the East, flat forest lands in the South and Lake States. These are the public lands the Department of Agriculture manages.

The Department sells more timber than any timber company in the world. Nearly half of all softwood sawtimber in the Nation and more than half the commercial forest land in the West is found in the national forests. About one-fourth of the timber cut in the West comes from the national forests.

Twenty-five percent of the revenues from sawtimber, and of revenues from grazing and other fees, are turned over to the counties in which these lands are located. National forest payments received by the counties, coupled with Federal expenditures for roads and fire control which States or counties would otherwise make, substantially exceed the taxes that the national forests would pay if subjected to ordinary assessment and levy.

The USDA operates one of the biggest fire departments in the world; on the average it fights 12,000 forest fires a year. Last year its airplanes dropped 8 million gallons of chemical fire retardants on forest fires.

In 1961 it built or supervised construction of enough roads to stretch from the Atlantic to the Pacific and halfway back again. It also built over 300 new bridges. There are now 162,000 miles of roads in the national forests for the protection and management of these valuable lands, and for their use and enjoyment by the American people.

State and Private Forestry

In the 50 States, 530 million acres of commercial forest land is capable of producing lumber and other forest products. About one-fourth of this land is in public ownership, mostly National and State forests. The rest is privately owned. Most of this privately owned forest—about three-fourths of it—is in small ownerships averaging less than 100 acres

each. It is to these small ownerships, in particular, that the Nation must look for a large share of its future timber needs.

For the most part, these small forest tracts are not in good, productive condition. Improving forestry practices on these lands and restoring millions of idle acres to production is one of the biggest jobs of the Department in Federal-State cooperation. In 1961, working through the State forestry agencies, the Department gave on-the-ground technical advice and help to 89,000 landowners. More than 1½ billion trees were planted in this country, mostly on private lands.

Also during the year, the States, with Federal financial help, protected 400 million acres against fire—a \$63 million program. There were also cooperative efforts in flood prevention and river basin programs, and in the control of forest insects and diseases which each year destroy enough timber to build all the homes needed for a city the size of metropolitan Washington and its Maryland and Virginia suburbs.

In its efforts to bring good forestry to the small woodlands and other private forest lands of our country, the Forest Service works closely with the State foresters, with the Soil Conservation Service and the Extension Service, and with other agencies in and out of the Department.

Forestry Research

In many locations around the country, Forest Service research people are at work trying to find practical shortcuts—more efficient methods and more effective practices for the Nation's forest and rangelands.

They are finding out how to increase the amount of water flowing to thirsty fields and communities, and how to improve the quality of the water. They are learning how to produce trees superior to present ones—in growth rate, wood quality, and resistance to insects and disease.

The forest scientists are gaining a better understanding of how weather, fuel, and topography influence the behavior of forest fires. This is leading toward new techniques for controlling the runaway fires now responsible for 90 percent of all fire losses.

And in the world-famous Forest Products Laboratory at Madison, Wis., and at other laboratories throughout the country, researchers are at work on new concepts that are increasing the use of wood in modern construction. They are finding ways to

make profitable use of trees heretofore considered unusable. They are learning how to bring longer life to products of wood.

Working for the Future

The Department continuously surveys the Nation's timber resource to keep tabs on forest conditions and the forestry picture throughout the United States. This includes anticipating future needs.

Only a few years from now—by the year 2000—this country will have twice the people we have today. But, we will have no more forest land at that time than we have today, maybe less.

Already we are feeling the pressures of a growing population on all the resources of the national forests. These pressures will not decrease; they will increase. And so, to help meet the growing pressures for more and more natural resources, the Department has planned two major programs dedicated to the future: A development program for the national forests, and a national forestry research program.

The development program for the national forests is well on its way. This is a long-range program with objectives for the year 2000, but with a 10-year action program aimed at meeting current needs.

Some of the projects already underway on the national forests have these targets for accomplishment by 1972:

- More trees will be planted on more land than the whole State of Connecticut.

- Forest improvement work (weeding, thinning, and the like) will be carried out on a total area twice the size of Massachusetts. Enough range fences will be built to go across the country—ocean to ocean—six times.

- Some 100,000 new camp and picnic sites will be built—enough to accomodate the entire city of Denver at one time.

These are only four projects. There are really hundreds. The national forestry research program, being readied for congressional consideration, is a similar 10-year program designed to support not only national forest needs but also the forestry needs of other public and private lands. The key emphasis here, too, is on moving forward.

The Department, in meeting its forest conservation responsibilities, is not just planting trees . . . building roads, fences, and lookout towers . . . weeding and thinning young stands of timber . . . building picnic and camp grounds . . . doing research . . . cooperating with other agencies. It is working toward the protection and wise management of this country's forests and their essential natural resources—for the benefit of the people of this country, now and in all the years to come.

The Lonely American

Fairness to farmers is the goal of the Government price support programs, directed at the price and income inequities in agriculture. USDA also reduces the uncertainties associated with crop failure—through a unique program of crop insurance.

Everyone agrees that abundance should be a blessing.

But how to keep it that way—even to the farmers who produce it—is not always an easy question. Farmers, their organizations, Congress, and the Department of Agriculture have worked for three decades to develop, operate, and improve programs that help to stabilize supplies and improve farm incomes.

The farmer is too often the victim of his own success, and of the inability of our economic system to provide him with a fair share of that success. Agriculture has in recent years produced 6 to 8 per-

cent more than the market would take. The result has been a downward pressure on prices, and the so-called cost-price squeeze.

Prices received by farmers in 1959 and 1960 averaged 6 percent below a decade earlier. Prices paid by farmers rose 17 percent during the same time. In 1960, the average return for farmwork was only 83 cents an hour, and the average per capita income on farms was \$1.255, compared with an off-farm average of \$2,309.

It is not enough to say: "Wait for population to catch up." Even with U.S. population growing dramatically, the farmer's ability to produce is growing even faster. Our domestic market is capable of only slow expansion. And recent history has shown that, even with big gains in oversea shipments, consumption cannot keep up with our spectacular rise in productive ability.



N-33329

Machines like this combine are one reason for the spectacular rise in farm productivity. How to keep the resulting abundance a blessing—even to the farmers who produce it—is a problem the Department works to solve.

The fact is that, in the absence of adjustment programs, farmers would likely increase the production-consumption gap to perhaps as much as 20 percent in 5 years. They have the built-in capability to do so.

It is not enough to ask: "Why don't farmers voluntarily reduce their production to bring it into balance with demand?" The answer to that is that the individual farmer is powerless to make much of a dent on production.

The farmer is, in a sense, the lonely American.

He is not physically alone, necessarily. The road-builders and the auto manufacturers have seen to that. Nor is there social isolation, which rural Americans have defeated with their own institutions and through growing participation in urban affairs.

But the farmer is the victim of an economic aloneness that places him in a position of isolation unique in our industrial society.

Industry groups—both management and labor—have means of acting together for bargaining strength. Professional people have institutions of control that enable their groups to represent the individual members with great success. Only the farmer is without a broadly effective means of advancing his objectives in the arena of supply and demand.

The farmer has no means of organizing effectively to regulate prices and production, as labor and the professions do. The individual farmer, operating only one of 3.7 million farm units in this country, does not have the power to set prices, as industry can. He must sell at the going price. Nor is he able by himself to accomplish desired adjustments in production.

A decline in prices does not necessarily cause farmers to move out of agriculture. Most farmers are linked to the land by family heritage and tradition, by investment and debt, by training and experience, and by many other bonds. It is only as a last resort are they willing to leave the farm. Instead, when prices fall, they are more likely to increase production in a lonely effort to stay in business.

And even if a farmer is forced out of business, his land is apt to stay in production, producing other surpluses to drive other farmers to the same bitter decision.

Finally, the farmer is different from other producers, in that he has no control over the vagaries of weather, which affects his output and his income from year to year.

It should be noted that—in such commodities as

feed grains, wheat, and cotton—even a very small percentage overproduction can in a free market bring ruinous price declines. Wheatgrowers would, as a result, have to balance supplies exactly against demand, in order to assure adequate supplies at adequate prices. Even if the farmer had the power to do this, it would not be good public policy to permit it. The Nation must have adequate food. Any error must be on the side of abundance. The Government thus has a responsibility to help manage this abundance for the good and not the harm of the people.

This abundance management job is centered in a unique Government corporation that has no operating personnel of its own—yet which acquires and sells farm commodities in the millions of dollars. The Commodity Credit Corporation's work—and the related action programs in production adjustment—are administered by the Agricultural Stabilization and Conservation Service.

In general, the purpose of these programs is to bring downward the price-depressing surpluses of certain commodities, until they are merely adequate reserves, and to protect farmers from some of the price uncertainties over which they have no control.

To bridge some of the uncertainties associated with crop failure, the Department also administers a program of all-risk insurance, under the direction of the Federal Crop Insurance Corporation.

Living With Abundance

Farm price support programs go back to 1933 when the Commodity Credit Corporation first supported prices of corn and cotton. The Agricultural Adjustment Act of 1938 made support mandatory for certain commodities. In recent years, these programs have helped to stabilize farm prices, although high production has resulted in sizable CCC inventories.

Prices are supported in two main ways: (1) Through loans on commodities which producers can then surrender to the Government if they wish, the loan rate becoming the farmer's return. Or (2) through purchases from processors, handlers, or producers. Also, for wool and sugar, the Government makes direct payments to farmers to keep producer returns up to required level.

The Department also administers programs created by Congress to stabilize supplies through production adjustment or "acreage allotments" and through incentive payments to get land out of certain crops.

Acreage allotments are used to help bring into balance production of the five "basic" crops—cotton, wheat, rice, peanuts, and most kinds of tobacco. When supplies are larger than normal levels defined by law, marketing quotas are used along with acreage allotments, subject to the approval of two-thirds of the producers voting in a referendum. A farm's marketing quota is the amount of a commodity produced on the acreage allotment.

Incentive payments, to get land out of surplus production, have been used successfully to reduce oversupplies of feed grains and wheat. These programs were authorized by the 87th Congress in 1961 and 1962.

In all these programs, the Department has a vast job.

In the case of a wheat marketing quota referendum, for example, the ASCS must communicate directly with more than 900,000 growers to notify them of their individual acreage allotments and provide other facts needed for participation. Those figures must, of course, be reckoned individually.

Measuring acreages of various crops is another big job—essential to success of the programs. Price supports and other program benefits can be made available only to producers cooperating to make the price support and production adjustment programs work as intended by Congress.

Measurement of acreages is done in part by an aerial photography unit, which is fast, accurate, and economical. This unit has in its files photos of 77 percent of the United States. About 300,000 square miles are rephotographed each year—so that complete coverage is obtained on the average of every 6 years.

ASCS workers measure land and crop acreage on aerial maps—part of the job of administering acreage allotments.

N-44607



Each photograph covers an area 3 miles square, at a scale of 1 inch of photo negative to 1,700 feet, or a third of a mile, of earth's surface. For index purposes, photo prints are patched together and photographed to form a "mosaic" of each county, scaled 1 inch to 1 mile. Theoretically at least, it would be possible to lay these mosaics together to create a tremendous "photograph" of the United States—just a little smaller than a football field.

Photographic prints are made available to private individuals and groups at cost.

Managing Commodity Stocks

Price support and other Government programs have led the ASC Service and Commodity Credit Corporation into supply management responsibilities on a gigantic scale. This job is carried on through four large commodity offices, the 50 State ASCS offices, 3 territorial offices, about 3,000 county offices, thousands of banks acting as lending agencies or custodians, the Federal Reserve Banks, a large number of cooperatives, and other agents.

The ASC Service deals on a day-to-day basis with hundreds of thousands of producers, thousands of processors, carriers, exporters, handlers, warehousemen, and others. Its operations involve the handling of literally millions of documents and transactions during a 12-month period.

CCC is in the storage business in a big way.

It operates in areas where adequate commercial storage is lacking a system of Government-owned storage facilities (CCC bins) with nearly a billion bushels of capacity.

It contracts for commercial storage throughout the United States. In 1962 it had in force about 8,000 warehouse contracts under the Uniform Grain Storage Agreement, covering the storage of grain, rice, flaxseed, and soybeans in 11,000 elevators in 44 States. Commercial facilities are also used for cotton, tobacco, dairy products, and other commodities.

The CCC helps farmers obtain on-farm storage, which they need in order to take part effectively in price support programs. It provides this help by making loans for the construction of facilities and for the purchase of drying equipment. Farmers have added nearly 600 million bushels of storage under this program.

In the fiscal year 1962, about \$3¼ billion (cost value) worth of commodities were moved out of CCC inventories. Some were sold commercially—to farmers, dealers, exporters, and others. Some

were donated for distribution at home and abroad, and some were bartered for strategic and critical materials abroad.

CCC is making increasing use of electronic computers in its inventory management work. Centralized accounting is provided by giant machines at New Orleans and Kansas City, which also are handling price support records.

The computer in New Orleans, for example, can tell you instantly the location of any bale of cotton among more than 4 million bales either in inventory or under CCC loan—and tell where the cotton was grown, when, and by whom.

The Farmer Committee System

Responsible for the price support and stabilization programs at the local level is an organization unique in the history of government. The key units are some 3,000 county committees and more than 27,000 community committees—each made up of farmers elected by their neighbors to administer programs for which the Secretary of Agriculture is responsible to Congress. They are paid part time.

Committees of farm producers were first used by the Secretary of Agriculture in local administration of the adjustment programs of the early 1930's. Later, the Congress specifically provided for the use of farmer committees in carrying out program provisions, and spelled out general directives for the election of members.

The elected county committees are responsible for the operation of county ASC offices, which are the first point of contact for farmers participating in these programs. In each county, the office manager and staff report to the farmer committee, which usually includes a chairman and two other members.

County committees carry out the local administration of acreage allotments and marketing quotas, price support loans and purchase agreements, and diversion payments, as well as the Agricultural Conservation Program through which the public shares with farmers the cost of establishing soil and water conservation practices.

These committees have had an important role in the USDA programs to improve farm prices and farm income. Price support revisions and the special wheat and feed grain programs have had a big part in boosting net farm income to a level 10 percent above 1960. At the same time the build-up in CCC stocks of wheat and feed grains has been halted—feed grain production actually being brought below the level of consumption for the first time since 1952.



S-10697

Crop failure. Bills to be paid. No money to try again next year. When crops won't pay the bills, crop insurance will.

CCC inventories in 1962 have been reduced by \$1½ billion below 1960, the cost of storage thereby being diminished by more than \$80 million a year.

Further beneficial results for farmers and the general public are expected from legislation passed in 1962 continuing the feed grain program through 1963 and providing a new wheat program for 1964 and subsequent years. The new wheat program recognizes the need for price support at two levels—one for export and the other for the U.S. market—and it will enable farmers to act in unison to reduce surpluses overhanging the market.

Federal Crop Insurance

“Crop failure.” Two words that speak a thousand questions. Seed and fertilizer and pesticide bills still to be paid—installments on the mortgage, the tractor, and the fire insurance. Most of all, the money to try again next year.

When crops won't pay these bills, crop insurance will.

In the 25 years since Congress directed the establishment of a program to “promote the national welfare through a sound system of crop insurance,” Federal crop insurance has enabled farm families to meet such bills to the tune of nearly half a billion dollars.

By bridging the uncertain gap between the sowing and the selling, Federal crop insurance serves as an important link in the programs of the U.S. Department of Agriculture. Impressive research achievements have greatly reduced but by no means eliminated the risks of weather, insects, and disease. And the best of marketing services are of scant help to a farmer without a crop to market.

Through insurance, farm families can pool their resources to cushion the personal financial hardship of unpredictable, unavoidable, crop losses. Federal Crop Insurance Corporation provides the hundreds of services that are necessary to make a

diversified, self-help insurance program possible—and actuarially sound.

While crop insurance indemnities are paid entirely from the premiums of farmer-policyholders, benefits reach far beyond the farm. Indeed, indemnities at the time of crop failure keep cash registers jangling in every corner of America's biggest industry—for the tractor dealer on the road to town and the tractor maker a thousand miles away.

Each year the millions of dollars of indemnities paid for by risk-sharing farmers go where they are needed most. When too much moisture left heavy tobacco losses in its wake, growers in Beaufort County, N.C., met their bills with nearly \$1 million of indemnities. And when crop disaster came in the form of too little moisture, crop insurance indemnities in Williams County, N. Dak., were more than \$475,000.

By helping themselves through voluntary crop insurance, farmer-policyholders sharply reduce a disaster-struck area's dependence on tax-supported emergency aid.

“It's our sincere belief,” a banker summed it up, “that Federal crop insurance is a very important factor in developing and retaining the stability of our community. First, it provides a guaranteed income to our farmers by protection against all kinds of losses to the growing crop. Second, it provides a good source of collateral for sound bank security.”

Some lenders go a step further, insisting that prospective borrowers consider crop insurance an integral part of their farm financial management.

The reasons are not hard to find. Until a few years ago farming was largely a matter of land, hands, and horses. A total crop failure, or even a series of crop failures, could be survived. Not so today. With today's tremendous financial investments, the loss of 1 year's investment can wipe out 5 years' profits. While crop insurance is no substitute for a bumper crop, it does offer a practical opportunity to protect past savings and future profits.

Such an opportunity is now extended to growers of 17 crops in nearly a thousand counties. Both the number of crops and the number of counties are being expanded, at a rate consistent with sound insurance principles.

Insurance coverage is offered for corn, wheat, cotton, soybeans, tobacco, rice, barley, oats, flax, citrus, grain sorghum, beans, raisins, peaches, potatoes, green peas, and peanuts. Coverage for some of these crops is on an experimental basis and not all crops are covered in all counties.

Because crop insurance is all-risk insurance, the causes of loss are as varied and unpredictable as nature itself. Claims arising from more than 120 separate causes have been recognized.

Whatever the cause, crop insurance policyholders are protected. The all-risk insurance plan guarantees a specific yield and a specific quality. The insurance is designed to make up any difference between the value of the crop and the approximate costs of producing it.

Federal crop insurance is insurance for farmers by farmers. Since 1948, indemnities have been paid

entirely from premiums, with enough premium income remaining to accumulate reasonable reserves. The taxpayer's investment is at a minimum.

The varied and complex services that add up to a modern, sound insurance program can be told only in terms of people: Skilled actuaries to assure that each policyholder's share of the cost of crop insurance is equal to his share of the risks, for the crops he grows where he grows them; underwriters to tailor maximum protection for minimum cost; sales representatives to explain and sell and service; adjusters so that losses are promptly and fairly satisfied.

Aladdin's Lamp

USDA credit programs have brought the kilowatt and the telephone to rural America. They have enabled many thousands of families to lift themselves into farm ownership and farming success. Today, credit is often the key to rural community development.

Thirty years ago, the typical farm home was a place that went dark at night except for a kerosene flicker. It was a place where fuel and water were carried, and barnyard chores performed endlessly by hand. Wood stove and washboard were the rule. A telephone was an exception.

In the early 1930's, there was hardly a hint of the tremendous changes that were about to be launched. Only 10.9 percent of the farms in the United States had the benefit of central station electric service. The number of telephones was small and actually dwindling.

Today the typical rural American has dependable electric and telephone service—at reasonable rates. He can enjoy radio and television if he chooses. His wife can command laborsaving devices that make housekeeping easier and safer. His children may attend an electrified school and call home by dial telephone. They may study their books by a fluorescent tube—replacing an oilwick little changed since Caesar.

Advancement in barn and farmyard is even more dramatic—in the application of electric power to farming itself. Modern dairying, for example, is a product of rural electrification. Machine milking and bulk cooling on the farm have streamlined dairying and set a new standard of milk sanitation—all due to electric power.

The electric lines to rural America have truly lighted an Aladdin's lamp of progress . . . opening endless new vistas in farming and rural living.

All this is made possible by a Government lending program. The instrument is the Rural Electrification Administration, an agency of the Department of Agriculture, created by Executive order in 1935.

Statutory authority came a year later with the passage by Congress of the Rural Electrification Act of 1936. That act authorized loans to finance the construction and operation of generating plants, electric transmission and distribution lines or systems, for the furnishing of electric energy to rural people without central station service.

That act, providing low-interest, long-term loans, was the key legislation. Later, it was amended to authorize REA loans for improving and extending telephone service in rural areas.

Because most private power companies had not shown interest in extending electric service to rural areas at reasonable rates, Congress included in the original act a loan preference to nonprofit cooperative associations and to public bodies. Cooperatives emerged as the principal vehicle for carrying out rural electrification.

REA's electric borrowers have included 961 electric cooperatives, 51 public power districts, 28 other public bodies, and 24 electric companies.

The cooperatives have done a remarkable job of extending electric distribution lines into the most sparsely settled sections of the rural United States on a full area-coverage basis. Today, 97 percent of all U.S. farms are electrified, and REA borrowers



N-38560

REA loans to co-op have given today's American farmer dependable electric and telephone service at reasonable rates.

serve more than half of those farms—together with more than 2 million other rural consumers, nonfarm homes, schools, churches, processing plants, and other industrial and commercial establishments. The rural systems have a repayment record that is practically perfect, despite the fact that REA-financed electric lines average only 3.3 consumers per mile. (Power company lines average about 32 per mile.)

The newer telephone program is achieving a similar record. The telephone systems financed by REA have brought modern dial service to approximately 1,325,000 rural subscribers. About 70 percent of U.S. farms now have telephone service.

Most REA electric loans are for distribution facilities—so far about 72 percent of the amount loaned. These systems purchase most of the power they distribute—38 percent of it from commercial power companies.

REA makes generation and transmission loans under certain conditions. Borrowers may obtain such loans if unable to buy adequate and dependable power, if the loan would result in lower cost power, or if the security of the system would be threatened by unfavorable terms or conditions for purchase of power. About 27 percent of electrification funds loaned by REA have been for the construction of generation and transmission facilities.

The remaining 1 percent of REA electric loans have been made under a provision that—where commercial credit is not readily available—rural electric systems may borrow REA funds and relend them to individual consumers. These funds are used to finance farm and household electrical wiring, plumbing facilities and appliances and equipment.

REA does not build, own, or operate electric or telephone facilities. The functions of the agency are limited to making loans and to furnishing technical assistance in engineering, accounting, and management improvement.

Borrowers of REA funds are independent service enterprises. Each is a locally owned business, incorporated under the laws of the State in which it operates.

REA-financed systems have made a strong impact on the rural economy, and their effects have been felt in urban markets, too. The record shows that rural electrification has improved living conditions of rural people, established new payrolls in farm communities, created a new multibillion dollar market for electric wiring, appliances, and equipment, and broadened tax bases.

New industrial enterprises arose to fill the demand for poles, wire, hardware, and other materials needed to build the rural systems. Literally thousands of new local businesses have come into being to supply the new demand for consumer appliances and equipment. The availability of dependable, low-cost electric power, together with modern dial telephone service, has provided a direct stimulus to all business in rural locations and small towns.

The nearly 1,800 electric and telephone organizations financed by REA, operating in 2,700 rural counties, have a direct stake in the economic welfare of their service areas. In addition to providing electric or telephone service, these borrowers have joined other community leaders in developing programs to develop and attract new industries into rural areas. In areas of economic distress, electric and telephone cooperatives have been in the forefront of local rural development.

Many REA-financed systems have actively campaigned for new industries in their service areas. For example, a cooperative manager in Wisconsin helped 2 local inventors develop an electric barn cleaner and establish a plant that now employs 230 workers.

Many cooperatives encourage rural industry by offering ample and dependable power at reasonable rates, as in northwestern North Carolina, where the Blue Ridge Electric Membership Corporation helped to attract an electronics manufacturing concern which employs 600 people.

Consumers on the lines of REA borrowers double their consumption of electrical energy about every 7 years. Farm and residential users now average about 375 kilowatt-hours per month. The demand

for ever-increasing amounts of lower cost power has made it necessary for a greater proportion of REA financing to be directed into cooperatively owned generating plants and transmission systems recently. In 1961, \$144 million out of \$258 million in REA loans were approved for generating and transmission purposes.

REA has encouraged all its borrowers to develop long-range system plans, based on loads three to six times larger than present loads, and to complete long-range financial plans based on these. A majority of REA-financed systems are working on such plans now, or have already completed them in order to be in a position to continue to offer adequate, dependable, and low-cost power to meet the needs of all who will live, work, and play in tomorrow's rural areas.

In the years ahead, REA electric borrowers face the prospect of (1) more consumers, and (2) greater demand per consumer. The number of consumers on REA-financed lines is increasing by about 100,000 a year. Input into rural electric systems was 31.4 billion kilowatt-hours in 1961. REA estimates that it will be 44 billion in 1965, and 62 billion by 1970. REA borrowers will continue to require additional loan funds to connect new consumers, to "heavy up" existing systems, and to construct additional generation and transmission facilities to keep pace with rising demand.

If REA borrowers are to continue serving their present territories, and to add new users, they must place greater emphasis on system improvements and on maintaining a reasonable schedule of retail rates through access to increasing quantities of low-cost power. REA financing will be necessary to both these important activities in the foreseeable future.

In its telephone program, REA plans to continue to seek technical advances to enable more and more rural systems to bring modern dial telephone service to those rural people yet unserved.

Agricultural Loans for Rural Development

Early in 1962, seven tenant families on a west Texas estate received some bad news. Trustees of the 5,500-acre property had decided to sell most of it. Without enough savings to buy the land they were farming, the seven families faced a difficult choice: Make hard-to-find tenant arrangements somewhere else or get out of farming. Some had been farming this land for more than a decade.

The owners tried to help, but the high total price and the tenant's small savings made ordinary bank financing out of the question.

Then a local banker suggested Farmers Home Administration. That agency of the Department of Agriculture, he explained, operated an insured loan program that might enable the estate's owners to work out a way of financing individual farms on the estate for the tenants. Local representatives of FHA also could help the tenants improve their farms and assist them in preparing and successfully carrying out long-term farm and home plans that would make the most of their resources.

It took some doing, but after weeks of patient negotiation the FHA county supervisor arranged insured loans for the seven tenant families. In effect, owners of the estate sold their land and buildings to the tenants, taking back notes on the individual farms. Through its insured farm ownership loan program, Farmers Home Administration guaranteed payment of principal and interest to the former owners.

The result: Instead of having to start over after years of farming, seven able farm families achieved a long-sought goal—the ownership of their own farms.

The Farmers Home Administration provides agricultural loans to worthy farm families who are unable to obtain needed credit from conventional private and cooperative lenders. Credit is furnished at reasonable rates and terms. Each loan is accompanied by technical farm and money management advice.

In the fiscal year 1962 such loans totaled \$637 million. That volume of loans, largest during any 12-month period in the agency's history, was 61 percent more than the 1961 total of \$395.7 million, and more than double the \$308.9 million loaned in 1960.

Nearly half of the total loaned during fiscal 1962 went for farm operating expenses; almost a third, for the purchase, development, or enlargement of family farms; and about a sixth, for the construction and improvement of houses and service buildings on farms and in rural communities.

About 205,000 families were using Farmers Home Administration credit for these and other purposes at the end of the fiscal year—12 percent more than the year before.

During the past quarter of a century, some 2 million farm families have borrowed \$6.4 billion from the Farmers Home Administration and its predeces-



N-39597

This Madison, Ga., couple is one of 205,000 families using FHA credit in fiscal 1962. FHA loans, repayable with interest, are made available to worthy farm families unable to obtain credit from conventional sources.

sor agencies to equip, operate, and buy farms and for other rural development purposes.

All of the farm families borrowing from FHA were unable to obtain the funds needed from other credit sources. Were it not for the credit program of USDA, they would have been unable to make necessary adjustments in their operations, to acquire the resources they needed to make an adequate living, or in the case of young farmers, to become soundly established in agriculture. Many would have been forced to sell out, and look for work off their farms.

Farmers may obtain loans from FHA to reorganize their operations or to secure additional resources needed to strengthen their farming operations. The objective of the loans is to help farm families become soundly established in successful systems of farming. The program supports America's system of family farming by producing better farmers. It provides the entire family with a greater opportunity to develop their ability and resources.

Loans are also available to residents in small rural communities to improve housing and to develop community water systems.

Credit is also supplied to family farmers for the development of recreational enterprises on their farms and to groups of farmers and rural residents for large-scale nonprofit recreational developments in rural areas.

Special loans are available for the development of housing for elderly people in rural areas.

Four main groups of family farmers turn to Farmers Home Administration for assistance in developing programs and plans to meet their needs:

- Small farmers who need more resources.
- Young farmers who must overcome fantastic barriers to enter the field of agriculture on a sound and secure basis.

- Established farmers who must make large-scale adjustments to keep up with changing times.
- Farmers and ranchers who face crisis because frosts, excessive rainfall, and other disasters have struck a crippling blow at their means of production.

Farmers Home Administration has proven that even farmers with low equities are excellent credit risks. A recent review shows that of \$4,555 million loaned up to 1962 in current programs to help farmers obtain decent homes, carry out needed soil and water conservation practices, buy and develop farms, finance farm adjustments, and meet emergency credit needs when hit by drought and other natural disasters, less than seven-tenths of 1 percent was written off as loss. Interest collections of \$436,200,000 amount to 14 times the losses.

Losses have been far more than offset by the interest repaid by successful borrowers. In addition, the rise in the standard of living of successful families; increase in their productive capacity; their greater contribution as taxpaying supporters of schools, roads, other community facilities; and the economic vigor they have pumped into their rural communities far exceeds in value the immediate program costs.

A farmer unable to obtain needed credit from regular lenders may apply for FHA's supervised credit through the local Farmers Home Administration county office. If the farmer's application for a loan is approved by the county committee, the county supervisor assists him in working out a farm and home plan to make the best use of land, labor, livestock, and equipment. This plan will be a guide for the farmer and his family to follow in operating their farm and determining the soundness of the proposed farming operation. It will show the crops and livestock he expects to produce for sale and home use; practices to follow in caring for land, crops, and livestock; proposed expenditures for livestock and equipment for running his farm and home; and the expected income. Before a loan is made, it must be reasonably clear that the borrower will have enough income to meet farm operating and family living expenses and to repay his loan and other debts. The FHA supervisor also provides on-the-farm assistance with farm and money management problems during the first few years of the loan.

These loans are adequately secured to protect the interests of the Government. Operating loans—those made to buy livestock and equipment and to finance annual farm expenses such as fuel, fertilizer,

and seed—are secured by a first mortgage on crops produced, as well as on livestock and equipment purchased or refinanced with loan funds. In addition, a mortgage may be taken on certain other chattel property, and sometimes assignment is taken on income from a farm enterprise.

Real estate loans—those made to buy, develop, and enlarge farms and to carry out water development and soil conservation practices—are secured by a mortgage on the farm, or chattels or other suitable security.

Association loans—those made to groups to build domestic labor housing for domestic labor or to de-

velop water supply systems for irrigation, household, and livestock use, to drain farmland and to carry out soil conservation measures or to develop recreational enterprises—are secured by a mortgage on the group's facilities or by bonds or notes pledging taxes, assessments, or revenues.

All borrowers agree to repay their loans and obtain credit from other lenders when they reach—or regain—a position where they can do so. Every year thousands of farmers “graduate” to other lenders. Thus FHA's programs supplements other sources of credit. It actually stimulates the business of other commercial lending agencies.

Co-ops: Research and Service

Most farmers belong to one or more of the 9,300 farmer cooperatives, organized to strengthen the individual's bargaining power. USDA services to these associations cover a broad front—aiding with research and education to solve problems as complex as agriculture itself.

America's farmers not only run 3.7 million separate farming enterprises—they also own and operate cooperatively about 9,300 businesses engaged in buying, selling, processing, and manufacturing.

These “farmer co-ops” do a gross annual business of almost \$16 billion. Farmers buy through these associations about a fifth of their feed, seed, fertilizer, and petroleum. They sell through them better than \$9 billion worth of farm produce each year.

It is a complicated job to operate a modern dairy or poultry processing plant, a feed mill or fertilizer works—typical of the farm supply cooperatives. It takes knowledge and skill to run successfully an up-to-date marketing or purchasing cooperative.

So the farmer-owners of these businesses—four-fifths of all farmers—need plenty of information to help them carry out their management job successfully.

To meet some of these needs, the U.S. Department of Agriculture operates a national center for information and study relating to farmer cooperatives. This is the role of the Farmer Cooperative Service.

The scope of the Department's work with cooperatives is vast—and the decisions of its cooperative specialists are vital to the welfare of farmers, the

communities where cooperatives operate, and the consumers they serve.

A steady two-way flow of information is centered in the FCS—from the USDA to cooperatives and from cooperatives to the USDA. The files, publications, and the staff thus reflect a continuing picture of problems and opportunities, adjustments to change, and reasons for cooperative successes or failures.

Staff members perform research and publish their findings in publications for cooperatives' use. They give specific help to individual cooperatives on current problems, and assist in workshops and clinics for directors, employees, and members of cooperatives.

Examples of research include cost studies on milling and delivering feed, delivering petroleum, and spreading fertilizer and lime. Others cover policies for credit control and inventory management, and essentials for successful farm supply cooperatives. Service to cooperatives might include help in merging two associations, improving the efficiency of warehouses, or an analysis of the structure and operations of an individual cooperative.

The cooperative service was begun with the Department's first formal project on cooperatives in 1913. In 1926, the Cooperative Marketing Act spelled out in detail the functions and aims of a new office in the Department to do cooperative research and educational work. That assignment from Congress includes making studies and then communicating the results in ways that farmers can use them to help their cooperatives adapt to their own needs.

The wide range of cooperative activities are illustrated in some recent studies:

- A comprehensive analysis of livestock pooling, and two specific studies on feeder cattle and feeder pig pooling. These pinpoint ways to better operation, advantages of pooling, and problems in pooling.

- Study of possibilities for joint selling of products by several cooperatives. This is to help growers, cooperatives, and other shippers find better ways to meet the demands of big chain buyers.

- Study of ways to improve efficiency of growers' organizations in marketing peanuts. Bulk handling and other technologies have brought vast changes to the peanut industry. This study should provide better understanding of new market developments and point to guides for better systems, lower operating costs, and increased returns to growers.

- Cost studies to determine the potential for mobile feed mills.

- Analysis of new practices and services that farm supply cooperatives should provide—for example, how far to go in direct distribution of supplies from factory to farm, bypassing regional or local cooperative offices; and what farm management services farmers want from their cooperatives.

- Appraisal of shift by a livestock cooperative from a terminal market operation to operation through local auctions. The cooperative specialist making this appraisal suggested improvements in facilities, recordkeeping, and use of labor that saved the farmers thousands of dollars. He also obtained

information for other livestock producers to use if they want to shift to auction selling.

- Published reports on causes of losses in moving livestock from farm to packing plant. The reports suggested ways to reduce these losses, which run as high as \$50 million a year.

Service of this kind involves a many-sided approach. The cooperative specialists draw on experience in the day-to-day business and plant operations of hundreds of cooperatives.

In working with an individual cooperative, they often take a broader look at the community itself. For example, if a cooperative cannot get enough volume from members to go into a new marketing activity, if the kind and number of employees are not available, if a good market is not present—it is evident that the economic base is not there.

Specialists often work closely with a county agent, a State extension or university man who knows the problem, or with the Bank for Cooperatives serving that district.

FCS works with State councils of cooperatives, the National Council of Farmer Cooperatives, the Cooperative League of the U.S.A., and many other commodity and trade cooperative organizations to amplify the results of its research findings and in its educational activities.

As an example, it cooperates with the American Institute of Cooperation in a series of regional member relations conferences each year. These have done much to improve activities in this field as well as to create a better understanding of what it takes to get better farmer-member involvement and participation.

Producers in Courtland, Va., pool their pigs for a feeder pig sale. USDA analyzes such cooperative activities to pinpoint ways to better operation—to help farmers work together to strengthen their bargaining power.

N-45912



The American Diet

We are the food we eat. Nutrition is therefore a science that strikes close to life itself. In addition to its basic research responsibility, USDA carries on education and action programs to promote good nutrition throughout America.

The national school lunch program has become almost as much a part of the American school scene as the three R's.

By providing nutritious meals at low cost—without cost if a child cannot pay—school lunches are helpful to the learning process. By introducing many children to a variety of foods, they help develop markets for America's farmers. But most important, the school lunch program is a part of the Nation's commitment to better nutrition for better living.

The U.S. Department of Agriculture carries on high-priority activities, both action programs and research, to improve our knowledge of nutrition and to apply this knowledge as broadly as possible—especially to the young and the needy.

The national school lunch program—since its modest beginning in 1946—has become the largest single food service industry in the Nation.

Schoolchildren look forward to their noon meals—provided in part by the national school lunch program.

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The National School Lunch Act provided not only cash and commodity assistance, but also national supervision and standards for the lunch program. State educational agencies administer the program within the schools. Public and nonprofit private schools in all 50 States take part.

USDA nutritionists, home economists, and other program specialists not only supervise the program, but work with State and local school lunch directors to help with management problems and assist in meeting nutritional needs.

Federal funds are apportioned to the States to be used for reimbursing the schools for part of the cost of the food they purchase. These funds must be matched from sources within the State, at the basic rate of \$3 for each Federal dollar. USDA also buys some foods of high nutritive value for distribution to schools taking part in the program. These purchases are solely for the purpose of helping the schools meet the nutritional requirements of children.

In 1962, USDA donated to schools foods valued at more than \$180 million. To meet the rest of their needs, the schools purchased foods locally—almost \$600 million worth. In addition, during 1961-62 USDA started an experimental program of special commodity assistance to schools in areas where local economic conditions were poor.

Through the national school lunch program, USDA helps safeguard the health and well-being of the Nation's children—and at the same time helps to create an expanding market for farm products.

The Special Milk Program

In addition to the milk that is served to children under the school lunch program, a special program is in effect that now accounts for some 2 percent of the annual nonfarm consumption of fluid milk—2½ billion half pints in 1962.

This program is open not only to schools, but also to orphanages, settlement houses, summer camps, and similar nonprofit institutions devoted to children. Some 87,000 schools and other institutions are now serving milk under this program—either free to the children or at reduced prices. Three out of every four children in school have this service available to them.

This program is proving extremely effective in moving milk into children's stomachs.

Direct Distribution of Foods

Some 90 million children and needy persons in the United States and 100 foreign countries are sharing in America's agricultural abundance through the "direct distribution" program of the U.S. Department of Agriculture. These foods go to schools, to charitable institutions, and to needy families—and to the needy in foreign countries through voluntary relief agencies.

The foods come from two sources: (1) Stocks acquired by the Commodity Credit Corporation under the price support program; and (2) food purchased by the Agricultural Marketing Service under the surplus removal authority started by the so-called section 32 law of 1935.

The USDA cooperates with the States in this program, and participation is of course voluntary. The State and local agencies—and the people served—choose whether to take part. USDA works with the States to help food recipients make wise use of the donated foods . . . including practical education in nutrition and food management.

Hurricanes, floods, and other disasters bring quick action. Donated foods are made available, usually from supplies nearby—in school cafeterias or in school or State warehouses or in State facilities—awaiting donation to needy persons and institutions.

The Pilot Food Stamp Plan

In 1961, USDA began a pilot food stamp program in selected counties to test this method of increasing food consumption levels among needy families. The result has been good. Participating families made a significant increase in food purchases and in the total value of foods used.

The good effect on nutrition levels is proved by the fact that more than 80 percent of the increase in the value of foods used was in fruits and vegetables and animal products—meat, poultry, fish, milk, and eggs. Local food retailing benefited, too, with the dollar volume of retail food sales increasing by an average of 8 percent on a seasonally adjusted basis in stores surveyed.

The food stamp program enables low-income families to exchange the amount of money they would normally spend on food for stamp coupons of higher monetary value. The family then can use these Federal coupons to purchase food at prevailing prices at approved retail stores. Grocers then redeem the coupons.

This results in improved diets for these families—both in quantity and quality—and the increased consumption aids in expanding farm markets and stimulating local business. As in other programs, States cooperate in certifying eligible families and in distributing coupons.

Good Nutrition Through Research

While the spread of good dietary habits is the goal of education and action programs, new knowledge is the province of the research worker.

Nutrition is a relatively new science—the term "vitamins" is only 50 years old—and Americans have made tremendous contributions. Congress initiated the first federally supported research in human nutrition in 1894. And the study of nutrition is now an integral part of USDA's research responsibility.

The Department's human nutrition research is concerned with the metabolism that sustains life, the nutrients required for proper metabolism, and the interrelationships of nutrients. Nutritionists are studying reactions in normal man, in laboratory animals, and in micro-organisms. Animals are a big help because their shorter lifespans provide quick results, and because of the danger in certain experiments.

Nutritionists are developing more exact knowledge of the food necessary for best growth and health throughout the lifespan. A recent study with laboratory animals shows that the type of carbohydrate in the diet has an important effect on fat metabolism and the control of cholesterol levels in the blood.

Results of such studies may lead to a more complete understanding of the place of fat in the diet, particularly as it affects circulatory condition in the human body.

Scientists are also working on the edge of knowledge with basic studies on biological reactions to nutrients in isolated cells, tissues, organs, and cell-free systems. This type of pioneering research widens the area of man's understanding and, consequently, the area in which scientists can work in solving specific problems.

Results of these practical studies are translated as rapidly as possible into terms of daily food habits. As part of this effort, the Department has issued a series of easy-to-follow food guides, so that every homemaker—every consumer—can have access to the best and latest knowledge available about proper diets for better health.

The Long Arm of Education

Cooperative extension is a native American idea . . . a countrywide service that carries ideas and information from laboratory and classroom . . . directly to the people on the land. Family progress . . . community development . . . are the goals.

In Arkansas, many were concerned about the rapid decline in farm numbers, and the consequent loss of jobs in agriculture. Industry has not expanded rapidly enough to absorb these "excess" people. Wages and family incomes were lagging . . . communities declining. Worst of all, there was a great outmigration of better trained, younger adults.

The Cooperative Extension Service provided the channel for action. A university team analyzed the social and economic changes, and State extension specialists began to enlist public interest. They defined the problems and possible alternatives. They provided the data for intelligent decisionmaking by the people. The press and broadcast media helped.

Public response was surprising. Some 58,000 people—or 6 percent of the adults in the entire State—participated in small discussion groups of 6 to 12 persons organized by the county extension agents.

The upshot is that the "Arkansas Future" program led people to organize for action. County and area development councils are now operating across the State. The foundation has been laid for a long-range program of economic development and social improvement.

The Cooperative Extension Service gives the Department of Agriculture and the land-grant colleges an educational arm reaching into practically every county. Here is a vast facility for "diffusing" knowledge among those who can use it.

Education has been a primary function of the Department since its beginning. According to the original legislation, the Department was established to "acquire and diffuse among the people of the United States useful information on subjects connected with agriculture."

How Extension Works

The Cooperative Extension Service is a partnership. Three levels of Government—Federal, State, and local—share in financing as well as in helping

plan and carry out educational programs serving local people's needs.

The State partner, the land-grant college, actually conducts the work. Through its State extension service, each college employs a staff of county farm and home agents. These joint employees of the college and USDA "stretch" the campus boundaries and the resources of the Department to the far corners of every State.

County extension agents work with local people to identify and solve problems. They teach people the reasons for and how to apply scientific information to improve their families, homes, and communities. They encourage and help people to put these facts to work.

Backing up the county workers are State and Federal extension staffs. County agents, located away from the college campus and experimental fields and laboratories, must keep up with latest research findings. Extension specialists are the connecting links. Working at the college and in USDA, these specialists are in close touch with the scientists. They keep county agents informed of new scientific findings. Specialists also serve as the channel for county agents to relate local people's problems to the scientists so research can go to work on those that are unsolved.

How Extension Helps

Extension educational programs dealing with the meat-type hog are a good example of Extension's work in farm production. These programs are a boon to farmers, meatpackers, retailers, and consumers.

Researchers developed the meat-type hog to meet consumer demand for leaner pork. Scientific methods were devised for selecting hogs that are more prolific, have a superior rate of gain, and produce maximum lean meat and minimum waste fat.

When this knowledge is applied, hogs are produced at less cost and often sold at a premium price. Packers and retailers supply a product their customers want. And consumers get "good eating"—leaner, more nutritious pork.

In the Oklahoma swine improvement program, producers are identifying superior breeding stock and learning factors that contribute to market value of hogs, better management, feeding and sanitation procedures.



N-27861

Twin 4-H'ers display part of their livestock project. More than 2 million boys and girls from 10 to 19 years old belong to 4-H.

As part of this statewide program, the Extension Service and Oklahoma City Livestock Market cooperatively teach how to evaluate hogs. Farmers attending the market estimate lean cut yield of selected hogs. Extension workers and stockyards personnel explain the purpose of the program and scoring techniques. After slaughtering, carcass facts are posted at the market and reported by mass media. Thus farmers can compare their estimates with actual yield.

In Illinois, a team of experts analyzed operations of a supermarket in a 135-store group—a marketing project of the Extension Service. The group then recommended changes in produce handling, store layout, and methods for improving labor productivity and efficiency. As a result, store officials report, produce sales increased 25 percent and total sales volume jumped from \$15,000 to \$20,000 per week.

Extension's work cuts broadly across all the Department's subject matter fields, and its specialists work with many other Department agencies.

In Vermont, 12,000 needy people were receiving donated foods through the USDA direct distribution program in 1961. Extension workers learned that few recipients knew how to make best use of the cornmeal, powdered eggs, dried beans, and other foods.

This was a challenge to the Service's home economists. They prepared a 24-page booklet giving nutritional facts about the foods, plus suggested recipes. A series of TV programs was launched to demonstrate uses of the foods. Radio stations and newspapers received a steady flow of information materials. And the women's editor of one radio

station became so interested that she developed a series of features on the food distribution program.

Through Extension's 4-H Club program, young boys and girls learn new skills, develop leadership abilities, and become better, more useful citizens. Many leaders in agriculture, business, government, education, and other areas of public life are among the 21 million 4-H alumni.

Untold thousands have had experiences similar to one South Dakota girl who came to 4-H with a shy, undeveloped personality. Leaving clubwork to enter nurse's training, she reported: "I find my 4-H background extremely useful. Through my projects and activities, I gained patience and understanding as well as know-how in handling difficult situations and the ability to develop them into successful and interesting experiences."

When Hurricane Carla struck the Texas coast in 1961, extension workers were directly involved in evacuation and recovery operations.

More than 500,000 men, women, and children were moved to escape the storm's path. When fallen trees obstructed traffic, the Jackson County agent contacted owners of winch trucks to clear the roads. When a helicopter flew in to assist after the storm, the agent directed the crew to farm families isolated by floods and sent medical aid to bed-ridden people.

The agricultural and home demonstration agents in Texas' Hardin County were on duty around the clock, helping welfare officers care for refugees. At extension headquarters in College Station—while 60-mile gales raged outside—extension specialists were already preparing releases telling families how to rehabilitate their farms and homes.

The Federal Extension Service rushed 50,000 copies of two USDA publications to College Station. The publications, "First Aid for Flooded Homes and Farms" and "How To Prevent and Remove Mildew," were sent to agents for distribution in the devastated area.

The rural area development program in Hardin County, Tenn., is an example of extension leadership in helping people attack broad problems.

When development efforts got underway in 1955, more than half of Hardin County was in cutover woodlands. With declining soil fertility and poor land use, farm income was dropping. Off-farm job opportunities were limited.

Under the county agent's leadership, the people organized a committee to take a close look at the problems. They took stock of the area's resources.

Then they considered how they could develop these resources to their full potential.

Forest development was encouraged and now 1 million trees are planted annually. An intensive soil fertility program was launched. Corn yields, which had been declining, jumped an average of 12 bushels per acre. New farm crops, such as pimientos and peppers, were introduced and further boosted farm income.

A pulp and paper mill was located in the county, bringing employment to 350 people and benefiting 2,000 others, including pulpwood growers, truckers, and suppliers. Voters passed a \$125,000 bond issue to build a new port terminal on the Tennessee River.

Short-term tax exemptions were promoted to encourage further industrial development.

Hardin County people consider these results a first step on their ladder of economic growth. In 1961, with Extension providing organizational and educational leadership, the people prepared an overall economic development program which they feel will be an instrument for even greater progress.

In the wide arena of public affairs, several State extension services have, in recent years, undertaken broadscale efforts to create an awareness of important social and economic problems. "Arkansas' Future" is an example of this type of work, which lays the groundwork for long-term action programs.

The World Is Our Market

A major USDA assignment is to develop foreign markets for American farm products. The Department also helps administer Food for Peace and shares its technical knowledge with developing nations—all part of a widening international responsibility.

A cargo of wheat churns down the St. Lawrence—one of 4,000 shiploads of U.S. farm products moving abroad each year.

A freighter carrying fresh apples glides outward bound from the port of Seattle—adding to an alltime high in U.S. fruit exports.

A case of frozen Arkansas broilers is unpacked at a cold storage warehouse in West Germany—now a \$50 million market for American poultry.

A barge filled with Illinois soybeans is guided down the Mississippi—to become part of record U.S. exports of vegetable oils and soybeans.

These events—far apart and seemingly unrelated—are all part of a growing pattern of American foreign trade. The building of this trade through aggressive promotion is a key USDA assignment, being carried out in every corner of the free world.

The Department works with trade groups to build and maintain oversea markets for U.S. foods, feeds, cotton, and tobacco. The success of this teamwork is reflected in the rising volume of U.S. farm exports—to a record \$5 billion a year.

This did not just happen. It was *caused*—by people, in private industry and in Government, who did it through positive market development programs.

About 70 percent of U.S. farm exports are now sold for dollars. Further expansion of these dollar sales is a major objective.

The other 30 percent are shipped overseas under Government-sponsored programs—all under the general heading of "Food for Peace." Food for Peace is a means of making U.S. agricultural abundance available to friendly nations that lack dollars with which to buy. The program enables our Nation to share with the needy of other countries, and to stimulate their economic growth, thus contributing to their eventual ability to buy in the dollar market.

The Attaché Network

USDA's role in this work and all its oversea responsibilities are carried on with the aid of the world's most comprehensive agricultural intelligence system.

This reporting and analysis network, operated by USDA's Foreign Agricultural Service, provides the Department with a constant flow of facts and interpretation. Reports cover food production, trade, and consumption of some 230 farm commodities in more than 100 countries. They also deal with weather, foreign government policies, and economics—all important to American agriculture.

The key elements in this service are on-the-spot reports from U.S. agricultural attachés and agricultural officers at 61 posts around the world. Nearly 5,000 reports and 2,500 foreign publications come to Washington each year from these oversea posts.

Once in Washington, the field reports are analyzed by commodity experts and economists who put them together and tie them in with accumulated background. Thus the Department is able to prepare summaries and conclusions that are highly useful to growers, trade groups, agricultural leaders, the press, and others.

This information is distributed through a variety of publications, including weekly and monthly magazines and specialized commodity reports, to trade interests and the general public through the overall information services of the Department.

Market Development

The job of maintaining and expanding farm exports is a demanding one. It is as far reaching as the world is wide. It is as complex as the customs, languages, and economies of a hundred countries.

One of the continuing jobs is simply to gain access to those markets—by wearing down the trade barriers that still hamper sales of our farm products abroad. Embargoes, high tariffs, and import quotas are examples. Easing of such restrictions is an essential first step to market development.

The Department presses for the lowering of such barriers through continuing work with foreign officials, and by representing U.S. farmers at key trade meetings such as the General Agreement on Tariffs and Trade.

Special action is being carried on to protect American agriculture's stake in the European Common Market. The six countries making up the Common Market have been buying about one-third of all U.S. dollar exports of farm products. Every effort is being made to maintain access to this prosperous growing area.

Market development takes many forms.

In South America, for example, there is continuing cooperation between USDA and Great Plains Wheat, Inc., a U.S. trade promotion organization which maintains an office in Lima, Peru, and another in Panama City. From these offices stem projects all over South America and the Caribbean.

Some of these activities are directed toward school lunches and nutritional education. Others are of a technical nature—giving assistance to millers and bankers. A baker's training school has been set up in Colombia.

In Spain, emphasis has been placed on building a new market for U.S. soybean oil. Introductory shipments under Public Law 480, plus education and



BN-8564

A Swiss housewife buys an American ready-to-cook chicken at a Zurich supermarket. Trade fairs and other market development activities are stimulating European appetites for U.S. foods.

promotion, have built a thriving new cash market for the commodity.

On every continent active cooperation between local interests and the U.S. cotton industry is helping to maintain cotton's position against the strong competition of manmade fibers.

Trade interests also have a strong hand in USDA's trade fair exhibits in other countries. The United States has participated in more than 100 international fairs over the world, and has set up permanent trade promotion centers in several countries.

These efforts demonstrate to the world the food and fiber products of America's farms—to build interest among importers, processors, and consumers. An increasing practice is actually to offer American foods for sale. Visitors want to buy foods, and they do—many thousands of dollars worth.

For example, Americans started selling cooked and precooked poultry parts at fairs in Germany—which stimulated the German appetite for the U.S. product and helped to create one of the American poultry industry's best overseas markets.

USDA also sponsors visits by foreign buyers and officials to this country. It carries on market research, including studies of the quality and suitability of U.S. products that face stiff competition from other countries.

All in all, the Department cooperates with more than 40 U.S. and foreign trade and agricultural organizations on market development projects in more than 50 countries.

Consumer Services

Service to U.S. consumers has a role, too.

This country is not only the world's largest farm exporter—it is an agricultural importer second only to the United Kingdom. The Foreign Agricultural Service serves the American consumer by supplying information on products that this country does not grow commercially. This includes information on the quality and availability of such products as coffee, cocoa, tea, bananas, spices, vegetable fibers, and other products.

This service also helps our export trade, because it enables other countries to earn dollar exchange through sales to the United States.

Food for Peace

In addition to the direct development of dollar markets, USDA also gets into the business of selling for rupees, cruzeiros, pesos, and a variety of other foreign currencies. Most of the Food for Peace exports go abroad this way.

U.S. farm products are supplementing the food resources of more than 100 countries with a combined population above 1.3 million. What is called the Food for Peace program consists, primarily, of activities authorized by title I of Public Law 480. Under that law, U.S. food is sold for foreign currencies when countries needing assistance lack dollars with which to buy.

Food is also bartered for strategic and other materials. Food is sold for dollars on long-term credit to underdeveloped areas. Short-term dollar credit is sometimes granted to American exporters to facilitate export sales where the importers are in need of working capital.

Food is moved directly through grants to foreign governments to meet emergencies or through donations to U.S. voluntary agencies such as CARE, Catholic Relief Service, Lutheran World Relief, and American Jewish Joint Distribution Committee.

More than 28 million children in 83 countries take part in school feeding programs based largely on

U.S. food. Food is moved rapidly—by U.S. voluntary agencies and foreign governments—whenever famine, flood, and other disasters hit. It is used for refugee feeding and child care programs. In Tunisia, Afghanistan, and several other countries, U.S. food becomes a partial payment of wages on public work projects.

Food for peace accounts for an increasing percentage of the total U.S. economic assistance program. Of the \$4.5 billion of economic aid extended to all foreign countries in fiscal 1961, \$1.5 billion—a third—represented aid growing out of this program.

Foreign currencies generated under the program have been used to build power-generating facilities, new hospitals, clinics, and schools. Food not only underwrites employment and development but counters the price inflation that usually accompanies development projects.

Through the food-for-peace program, starving children in foreign countries are sharing in American abundance.

BN-14104



Influence by Example

One of the most potent of America's contributions in the arena of world agriculture is by example.

As the underdeveloped nations push toward economic development, they are certain to make changes in their agriculture—in an effort to overcome centuries-old lack of technical progress. The shape of their new agriculture will have much to do with the shape of their overall development.

Looking around the world for examples of success, these countries see U.S. agriculture as an obvious choice. The American farmer has not only delivered abundance to his country, he has also delivered his countrymen from the straitjacket of a subsistence farm economy.

By boosting his output per acre, per animal, and per man, he has freed the vast majority from the daily process of food growing. That is the key to industrialization—and the real issue in a nation's development.

Looking for the things that made this possible, the people of other countries are attracted to our family farming system and to certain other institutions—including several programs of the U.S. Department of Agriculture.

One which has particular appeal as an idea that can be applied in other countries is agricultural extension. That program has gained a worldwide reputation for its success in bringing improved methods to American farmers. It has brought to this country a stream of visitors who came to study this singularly American development.

"The United States has helped my country in many ways," a Southeast Asia farm leader said. "Your greatest contribution, however, is in giving us your concepts of extension education and helping us develop an effective agricultural extension program."

The Agency for International Development has responsibility for assisting foreign nations with their technical advancement, and USDA makes available its full resources of experience and research in "back-stopping" this program.

USDA provides training for foreign nationals, and at times specialized personnel for temporary duty in other countries. This foreign training is coordinated by the Foreign Agricultural Service. In fiscal 1962, FAS coordinated training and study programs in the United States for 3,774 visitors representing 109 countries.

A New Vision

Two out of every five Americans today live in areas that are essentially rural—areas that now face a serious crisis. Their opportunity lies in the coordination of many related activities to one basic goal—a revitalized rural America.

Onubby County is not a real place. But it might as well be because it is just like dozens of counties in rural America—where things have been changed but not helped by the passing juggernaut of economic progress.

Onubby is a county that was pioneered in hope maybe a hundred years ago. It is a county where farms were never rich, but which provided comfort and good living, for those days, to generations of hardworking families. And now times have changed.

The farms are no longer an economic mainstay. Some are hilly and not too productive. Some are in cutover areas and highly eroded. Most are too

small to support the high degree of mechanization that farming requires today. Opportunity also has bypassed the nonfarm people who live in the open country and work wherever they can.

The town, too, has been deserted by opportunity. A growing number of business buildings are vacant, and the others are vaguely uninviting. Businessmen are slow to invest in a community that seems to be dying. Many of their farmer customers—caught between poor incomes and high prices—have left the area for good.

The town bank is strangely quiet. A declining tax base provides little in the way of local government. And most tragic of all—too many of the young people, especially those with ambition and a high school education, are leaving the community in search of opportunity.

Thus, as the people grow older, they have less to do—and less to look forward to.

But look again.

Even here, under the seeming passivity, there may run an undercurrent of hope. There may be a potential for improvement . . . a desire for betterment that can be ignited by local leadership . . . from the banker perhaps, a schoolteacher, or a farmer leader.

If so, Onubby County is likely territory for rural area development, under programs of the U.S. Department of Agriculture. For the success of rural area development depends on local initiative and local leadership.

A National Problem

The crisis in rural America is not an isolated one. Two out of every five Americans live today in areas that are essentially rural.

Almost 16 million live on farms. Thirty-eight million others—nonfarmers—live in strictly rural areas. Twenty-two million people live in cities of fewer than 25,000—cities which draw their economic sustenance from the countryside and are thus a part of rural America.

To say the least, rural America has not shared fairly in the Nation's economic growth, and this is reflected by changes in the country's population makeup. Most of our spectacular population growth is taking place in a few great cities.

In the decade of the 1950's, our population increased by 29 million people. Eighty-five percent of that growth took place in 300 metropolitan counties, and fully half of it took place in just 50 of those burgeoning urban counties.

Outside these urbanized areas, there was quite another picture. Population declined in most towns of fewer than 2,500 people, and increased only slightly in those of 2,500 to 10,000. The farm population that supports these smaller towns and cities fell off by a third.

On the average, a million people left the farm every year during the decade of the 1950's—that's about 2,500 people going to urban places every day of the week.

This continuing outmigration is a matter of the greatest concern. It reflects a great deal of trouble on the farm. It results in a great deal of unhappiness in the city as farm people—often older and not trained for other work—try to make their economic ways.

The patterns of change are several.

In Wisconsin, three grain and livestock farms that once supported three families are now operated by one owner who moves his machinery from farm to

farm and lives in town. The three families have gone to the city.

In Oklahoma, a farmer has given up most of his farmland but retains the family home. He may commute daily to inadequate employment in town, or he may live and work in a more distant city during part of the year.

In each case, the family farmer who stays in business does so by increasing his acreage enough to make full use of the machinery he must have. He buys or rents land from the smaller farmer who lacks the resources or the skills to stay up with the growing technology.

The farmer who is least likely to succeed in such a shakeup is the younger "postwar" farmer who is still heavily mortgaged, or the older farmer who is least able to adjust. The result can be tragic in either case.

This kind of change, being felt throughout rural America, adds up to these stark facts:

- Rural people lack adequate opportunities for education, reflected in the fact that urban people over 25 have on the average a fourth more formal schooling than do farm people.
- Rural people lack job opportunities. Underemployment in rural areas is the equivalent of around 4 million unemployed.
- And more than half the poverty in America today is in rural America—a rural America which has at the same time created a worldwide success story in food production.

The Price of Progress?

This, some say, is the price of progress. As you increase efficiency in farm production, fewer workers are going to be needed, and the logical answer is for these "surplus" people to move off the farm and into the city. The idea of "surplus" people is repugnant to the Department of Agriculture and to all thinking Americans.

The answer is, however, that progress must not be measured in terms of supply-and-demand economics alone—especially when families of human beings are pawns in the economic game. Progress must be measured in terms of people.

Technical progress in farming has benefited Americans, especially as consumers. But it has brought to bear on farmers an unfair and unreasonable burden of adjustment.

During the 1950's, the number of jobs in agriculture went down 28 percent. This is like abolishing 4.2 million jobs in manufacturing or 2.7 million

jobs in the wholesale and retail trades—which would bring a terrible outcry indeed. Manufacturing employment actually rose 1.4 million during that decade, and wholesaling and retailing employees increased by 2 million.

Change is inexorable, and progress is desirable. The threat to rural America does not lie in scientific and technical progress itself.

The threat lies in the failure to direct changes growing out of that progress in ways to meet the real needs and wants of all the Nation's people. Change must be shaped to work for people—not against them.

In rural America, this calls for a two-pronged effort:

First, we must manage our abundant productivity in such a way that the efficient family farms can produce a decent income—a return commensurate with investment and farming ability.

Second, for those now living on farms that cannot be operated efficiently, opportunity must be created through avenues both agricultural and nonagricultural—so that each family can earn an adequate living, preferably in the community where it wants to live.

This means marshaling the tremendous natural advantages that rural America already possesses—in human and natural resources, including that increasingly valuable commodity, space. It means enlisting public support at all levels, through the whole galaxy of action programs authorized by Federal, State, and local governments.

That is exactly the purpose of Rural Areas Development. It is a blending of all available programs for a broad-gage, long-range simultaneous attack on the problems of rural America.

The Broad-Gage Attack

Eleven Department agencies, other than the Office of Rural Areas Development, have personnel, facilities, and programs that are being directed toward the problems of underemployment and other economic problems in rural America.

Let us go back to our fictional community, Onubby County, and see how these agencies might work together to help local people lift themselves out of their futility spiral.

The impetus and the drive for development must come from the people of Onubby County—those who live on its farms, those who live in the open country but do not farm, and those who live in the towns and the villages. The Federal Government can provide incentives and technical services, but Government cannot and should not do the local job. A community waiting for Government to pull it out of problems caused by change and shifting economic and social patterns will be submerged. The challenge, then, is to local leadership.

When this challenge of local leadership and initiative is taken up by the people of Onubby County, the services of USDA can be fully used for the kind of development the people want for their county.

The first steps would be taken to strengthen the county's farming enterprises as productive economic

Local people in Butler County, Ky., provide the leadership for development of the county's resources.

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units. Those farmers who have the basic qualifications for success might be brought under the credit programs of the Farmers Home Administration, including supervision to assure successful use of these funds. In this way, a farmer could obtain the capital, livestock, and equipment he needs to become fully successful in today's mechanized farming.

These programs could be meshed with conservation cost-sharing and adjustment programs of the Agricultural Stabilization and Conservation Service and technical help from the Soil Conservation Service. The Forest Service might take a hand with assistance to private woodland owners.

These conservation measures would improve agriculture. And—especially in the case of ponds, watershed reservoirs, and wildlife plantings—they might increase recreation potentials and make it possible for farmers to gain additional income from controlled hunting, fishing, picnicking, camping, and other outdoor activities for which there is a growing demand.

An organized watershed program in the area might increase these opportunities dramatically.

Meanwhile, the Agricultural Extension Service would play a crucial role by helping to analyze needs and helping to organize and stimulate local groups to action. The Agricultural Research Service might supply technical information useful in farming as well as to new industry which might enter the area.

The Rural Electrification Administration would cooperate with its borrowers in assistance to new processing plants and other local industry and commercial enterprises.

In turn, local companies seeking new plant locations might be attracted by the availability of water from flood-prevention dams, and by the presence of recreation facilities which would attract employees and new customers.

Both farm and industrial development could be helped by the Farmer Cooperative Service, which would aid in establishing farmer purchasing and marketing cooperatives. Technical advice from the Agricultural Marketing Service would be available to these cooperatives, as well as to commercial firms.

The Economic Research Service could provide marketing and population studies for the benefit of local projects. The Statistical Research Service could be called on for surveys to obtain needed statistical information.

This imaginary situation is, of course, highly idealized. Areas are different, and not all these

USDA services would be enlisted in any one community. But it illustrates the ways that these agencies are working together in rural areas development.

The Department also cooperates with many other groups—at National, State, and local levels—public and private. Examples in the Federal Government are the Area Redevelopment Administration of the Department of Commerce, and the Fish and Wildlife Service and the Bureau of Reclamation, both in the Department of the Interior.

This kind of broad, well-coordinated activity in a community can start a high-velocity chain reaction that leads to higher employment, better incomes, and greater purchasing power. They can bring forth—in a surprisingly few years—a new look of prosperity on farms, new smoke from industry chimneys, and a new jangling of cash registers along Main Street.

This is being proved.

Rural Areas Are Being Revitalized Now

Watauga County, N.C., is a real place.

A good many years ago a Watauga citizen described his home county this way: "A place where people are born, then leave, and later return to die."

But today, Watauga County is a good place to live, to work, to bring up a family, and to enjoy all of life.

Here is some of the evidence:

- Median income of Watauga County families rose from \$1,063 in 1949 to \$2,497 in 1959.

- Retail sales in the county jumped from \$8.9 million in 1954 to \$12.4 million in 1958.

- Crop and livestock sales rose from \$2,252,000 in 1954 to more than \$3,300,000 in 1959. The county agent expects the 1962 income of Watauga farmers to be around \$3,400,000.

- Bank deposits in the county seat town of Boone are up 47½ percent since 1957—rising from \$4,322,000 to \$6,375,000.

Watauga began its upswing when local leadership started their own rural improvement program. Their development committee thoroughly analyzed the needs of the county, inventoried resources, set goals, and made and acted on decisions on how to reach those goals.

Problems were broken down into bite-size chunks and separate committees were set to deal with each one. Only people interested in developing the county and who were willing to work became members of these committees. For the people of Wa-

tauga realized early that a successful development program doesn't materialize overnight. It requires work, hard work, and plenty of it.

But it pays off, too!

There's a new factory employing 250 local people—established by local money, too. One local citizen started his own plant, a woodworking shop, and he employs 25 more people.

Recreation developments have brought new income into the area. An 18-hole golf course attracts and holds tourists. Plans are being pushed forward to develop a ski resort in the nearby mountains.

Improved agriculture, too!

One-fourth of the area's 1,940 farms are active in soil conservation work, contouring acres, planting trees, improving woodlands, building ponds, and renovating grasslands.

Farmland increased in value, too!

During the period from 1954 to 1959, farmland values went up around 40 percent, from \$6,780 to \$10,020.

Leadership came from the banker, the mayor, the merchants, and from the area's soil conservation district supervisors. The rural electric co-op, serving the county, also provided leadership and encouragement. Its low-cost electric rates proved a dominant force in helping the people attract industry.

The local people of Watauga initiated their own development program. They did the planning. They did the carrying out. And when they asked for assistance, the USDA provided it through its Federal-State extension programs, through its technical assistance soil conservation programs, through its cost-sharing and credit programs, and through its longstanding conservation and stabilization programs.

Rural Areas Development is a self-help approach to this problem of redeveloping economic opportunities in rural areas of this Nation. It is the Department's way of aiding those who ask for assistance.

The Future

More than 50,000 rural and small-town people are members of more than 1,500 rural areas development committees. They already have prepared 2,700 development project proposals, and have started 900 of them. These 900 operating projects have created new jobs for more than 12,000 rural people. And when plans for the other 1,800 projects are rolling, an estimated 25,000 new jobs will have been created in rural America.

This activity will be accelerated as a result of recent legislation.

USDA now can enter into agreements up to 10 years with farmers and ranchers who carry out long-range conservation plans.

The Department can now make 30-year loans to assist State and local public agencies designated by the Governor or State legislature to carry out land utilization plans.

In small watershed projects, the Department may now share with agencies of the States up to one-half the cost of land, easements, and rights-of-way for reservoir or other areas to be managed by State and local agencies for public recreation.

The Department may now advance funds to local organizations for immediate purchase of lands, easements, and rights-of-way to prevent encroachment of other developments in small watershed projects.

The Department may now aid local organizations in developing water supply for future use in small watershed projects.

Farmers now may obtain loans up to \$60,000 from USDA for development of income-producing recreational facilities. Operating loans up to \$35,000 also are available to farmers for operation of recreational facilities.

The Department also is authorized to make loans to provide low and moderate cost rental housing and related facilities for elderly persons and families in rural areas.

With these authorities, the Department is prepared to assist local people and local agencies with rural renewal projects, resource conservation and development projects, watershed recreation developments, creation of water supply for future needs, projects for expanding grasslands and family forests, and for the development of outdoor recreation facilities on farmland.

All are new tools for use by local people in making change work for people—not against them.

The native advantages of rural America are great. They include land and water and space and scenic beauty and living things. They include people who, in the traditions of the land, are resourceful and independent and important to the American spirit.

The future of rural America must include the preservation of these resources. It must include their wise use for the benefit of all Americans, both rural and urban. And it must include economic revitalization so that rural people can remain on the land in a position of strength.

That is the new vision for rural America.

Food Readiness

Our food supplies are a major defense tool and an important instrument for peace. Suppose, for a moment, that Russia had food surpluses and we had food shortages. Such a possibility points out the value of adequate food supplies.

A powerful storm devastated parts of the Atlantic coast in 1962. Families were marooned, regular food supplies were cut off. Victims were restricted to their immediate areas to prevent looting.

A civil defense helicopter, loaded with food—meat, milk, flour, beans, butter, cheese—raced to Cape Hatteras, N.C., with a USDA food distribution officer. They found 20 families, stranded and hungry. That same day the USDA man helped fly in food to two other stranded communities. The next day he arranged to get 5 tons of food to another flooded area by ferry and Army truck. All told, more than 190,000 pounds of food were given to 8,000 storm victims.

Hurricane Carla set some 500,000 people in flight from the gulf coast in 1961. More than a million pounds of food, from USDA food distribution and school lunch stocks, already in the hands of local or nearby officials, were given to them. Feed grains from USDA stocks were donated to State governments for starving livestock owned by hurricane victims. When the flood victims were able to return to their homes, they had USDA know-how and USDA credit to help them start food production again.

In these and other natural disasters, many Department of Agriculture workers have been trained to meet their great responsibilities should we ever see thermonuclear war.

It is USDA's job, during a national emergency, to see that the United States and its allies have the food and other farm products necessary for survival and victory. "Built-in" defense readiness is a day-to-day activity of the Department.

The Cuban emergency of 1962, for example, found no crisis in food. Supplies were more than adequate. And the productive capacity of American agriculture—without parallel in the world—is insurance that there will be no food crisis in the foreseeable future. Our overwhelming food superiority is a major deterrent to attack and one of our greatest assurances of survival.

In the event of a nuclear attack, USDA has a field organization ready to handle agricultural defense

responsibilities. USDA people are on the job now, preparing for defense at the same time they perform their regular work.

The Department's agriculture defense boards serve every State and county in the Nation. These boards have instructions about how to assure a regular flow of food. They would help farmers protect themselves and their livestock, help them produce the food and other goods we will need.

USDA is showing farmers how to protect their families, crops, and livestock from attack. It is carrying on research for survival, including research on defense against fire, radiation and blast, as it affects our farms and forests.

USDA owns stocks of grains, dry milk, and other foods, which could be distributed for emergency feeding. Food rationing is a State and local responsibility, but USDA will help the food industry to get its available supplies moved to areas of greatest need. The Department will claim farm equipment, parts, fuel, fertilizer, and other supplies, so that farmers and ranchers can maintain food production through the emergency.

In its broad sweep of day-to-day activity, the Department touches the lives of all Americans, as they work, eat, play, and sleep. So it would be with defense programs. The major USDA concern, of course, would be for food; production, processing, storage, and distribution to wholesalers. Canneries, freezing plants, meatpacking plants, and other food processors would be coordinated in the defense efforts. Warehouses, railroads, the trucking industry, shipping, and other transporters would be needed to get farm goods to disaster areas, often under extremely hazardous conditions.

The Secretary of Agriculture is responsible for USDA's total defense effort. He maintains liaison with the White House and Congress concerning policy, direction, and supervision of the USDA National, State, and county defense boards. In an emergency, he would estimate effects of the emergency and would claim the requirements needed for food production and other USDA programs.

The USDA National Defense Board is made up of the USDA agency heads with major defense assignments. It counsels and advises the Secretary. The Agricultural Marketing Service is responsible for management of food supplies between the farm and the wholesaler. The Agricultural Stabilization and



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USDA scientists experiment with ways of removing radioactive fallout from farmland.

Conservation Service is responsible for crop and livestock production on farms. Agricultural Research Service responsibility covers defense against biological and chemical warfare, livestock and meat inspection, and defense research. Forest Service plans protection against fires in rural areas. Other agencies perform services related to their regular work and would support the overall USDA effort to produce, protect, and safeguard our food and fiber supplies.

USDA State defense boards are made of up eight agencies: Agricultural Marketing Service, Agricultural Stabilization and Conservation Service, Agricultural Research Service, Cooperative Extension Service, Farmers Home Administration, Forest Service, Soil Conservation Service, and Statistical Reporting Service. The Agricultural Stabilization and Conservation Service State executive director is

chairman of the State board and the State ASCS also provides supporting office services.

The USDA State defense boards are responsible for liaison, coordination, and reporting. The chairmen are responsible for building adequate organizations and staffs to carry out emergency programs. They are developing State programs for food requirements, allocations, manpower, equipment, and supplies. In addition, these State chairmen supervise county defense boards. If cut off from national direction in an emergency, the State chairmen are also responsible for carrying out all USDA programs at the State level.

USDA county defense boards are made up of the Agricultural Stabilization and Conservation Service, Cooperative Extension Service, Farmers Home Administration, and Soil Conservation Service, and representatives of other USDA agencies located in

the county. The county chairmen are responsible for carrying out USDA work and for coordinating USDA agency representatives in the county in an emergency. Should communications with higher authority be cut off, the county chairmen have authority to make all necessary program decisions.

But, farmers themselves are the foundation of emergency agricultural action, and the Department is working hard to help them and keep them informed of latest happenings.

The Agricultural Research Service and the Soil Conservation Service have trained about 9,000 technicians to guide farmers, ranchers, and other rural residents in dealing with radioactivity, should it become critical. The technicians, in every agricultural county in the United States, are equipped with monitoring instruments supplied by the Department of Defense. SCS monitors are trained not only to monitor radiation but to interpret its effects on soil, crops, water, livestock, and, of course, people. Meat and poultry inspectors assure safety of these products. Forest Service has more than 300 fixed radiological monitoring stations in the National Forests and about 250 mobile stations.

Forest Service is also responsible for directing and coordinating national rural fire defense. Its program for national fire protection on wild and rural

lands provides national leadership and guides the States. About 90 percent of our land is wild or rural. Forest Service cooperates with States, private groups, and others.

Research is being carried out by the Department to develop more knowledge about fallout protection. In addition to the work on removal of radioactivity from milk, there are four other research areas: Study of isotope movement through the soil; study of the movement of radioactive isotopes from feed to milk; effects of radiation on the dairy cow; and decontamination of soil.

Summing up, USDA is unique among Federal agencies in its ability to carry out defense mobilization locally. Some USDA employees are in each, and could, if necessary, carry on agricultural programs for food production without direction from higher authority. Thanks to our efficient farmers, our total food supplies are adequate for many months. Plans are underway to provide food for areas where it may be in short supply in an emergency. Our knowledge of thermonuclear war is still limited, but research is moving forward to make known the unknown.

And, while we prepare for defense, our food and research continues to help feed hungry people in many nations because, as long as people are hungry, there will be a threat of war.

